VOL 20

Artificial Intelligence and the Problem of World-Binding Intelligence, World Models, and Authorship

Timothy Speed

Operatoric Research Corpus - Studies in World-Formation

Operatoric Research Corpus
Studies in World-Formation

Section IX

Artificial Intelligence and Human World-Formation

Volume 20

Artificial Intelligence and the Problem of World-Binding

Intelligence, World Models, and Authorship

Timothy Speed
2026

DOI: 10.5281/zenodo.22812186

Impressum / Publication Information

Author: Timothy Speed
Independent Researcher
Straße zur Eiche 10
04916 Schönewalde
Germany

Email: info@timothy-speed.com
Website: https://timothy-speed.org

License:
© 2026 — CC BY-NC-ND 4.0

GND: 122901991

VIAF: 37811735

ISNI: 000000001636722X

Wikidata: Q138504206

Scholar ID: hBLHdoAAAAJ

https://orcid.org/0009-0002-0143-5949

Zenodo Community: Operatoric Research Corpus Archive

Archived at: https://timothy-speed.ar.io

First published: 2026
This publication is deposited in the German National Library (Deutsche Nationalbibliothek) as a network publication.

DOI: https://doi.org/10.5281/zenodo.22812186

Abstract

Volume 20 of the *Studies in World-Formation* series examines the relationship between artificial intelligence, World-Binding, and epistemic form. Its point of departure is the thesis that technical capability is not identical with World-Binding. The three studies brought together in this volume investigate this difference on three interconnected levels: the scalability of intelligence, the reach of World Models, and the question of authorship under conditions of generative AI.

The first part develops, through the concept of the **Sweet Spot of Intelligence**, the thesis that intelligence cannot be understood as an indefinitely scalable property. It appears instead as a relational capacity to integrate difference into a coherent and actionable world. Too little difference does not generate sufficient world formation; too much difference can undermine a system's capacity for integration. Intelligence therefore does not lie at the maximum of complexity, but within a limited range of maximal World-Binding Capacity.

The second part applies this perspective to **World Models**. It distinguishes between world modeling and World-Binding and argues that a model can describe relations, recognize patterns, and simulate consequences without generating the irreversible embeddedness through which relevance, Eigenzeit, and responsibility emerge. The description of a binding is not identical with the binding itself; the simulation of a consequence is not identical with the consequence. Responsibility therefore does not necessarily arise from maximal predictive capability, but from dealing with non-closure, uncertainty, and real consequences.

The third part shifts the same question into the domain of **authorship and generative AI**. It distinguishes text genesis from work genesis and understands authorship as an Eigenzeit relation: as an irreversible connection between historically situated form formation, a setzung, and the future possibilities of the instance that carries this setzung. A machine can generate, transform, or reorganize language without thereby occupying the same authorial position as a human being whose work emerges from an ongoing Eigenzeit.

Neurodivergent authorship acquires particular significance in this context. Generative AI can function as an **externalized foreign Raster** or as an epistemic probe through which an already existing form is transformed, misunderstood, tested, and returned. Under certain conditions, this transformation may not weaken authorship but protect it, insofar as it increases communicative accessibility without eliminating the difference that made mediation necessary in the first place. At the same time, smoothing, normalization, and premature closure create new risks for the integrity of epistemic form.

Volume 20 connects these three investigations through a common question: **When does technical capability become a genuine relation to the world?** The answer is similar across all three fields. More complexity is not automatically more intelligence. A more comprehensive model is not automatically more world. More generated language is not automatically more authorship. What is missing in each case is irreversible relational embeddedness, within which differences acquire meaning, consequences generate history, and a system is itself changed through its setzungen.

The volume therefore does not develop a general theory against artificial intelligence. Rather, it investigates its ontological and epistemic conditions. Artificial systems can model, transform, simulate, and irritate epistemic forms. Their limits emerge where these operations are confused with World-Binding itself. The central concern of the volume is therefore not how powerful artificial intelligence can become, but under what conditions capability passes into world, relevance, responsibility, and authorship.

Keywords: Artificial Intelligence, World-Binding, Epistemic Form, Intelligence, World Models, Generative AI, Artificial General Intelligence, AGI, Superintelligence, World-Formation, Eigenzeit, Non-Closure, Gap, Complexity, Sweet Spot of Intelligence, Predictive Intelligence, World-Binding Capacity, Relevance, Irreversibility, Responsibility, Agency, Authorship, Neurodivergent Authorship, Operator Authorship, Recursive Authorship, Interface Text, Epistemic Transformation, Incommensurability, Epistemic Probe, Externalized Foreign Raster, Counter-Raster, Raster Theory, Form Formation, Morphogenetic Pressure, Setzung, Work Provenance, Execution Provenance, Authorial Act, Human-Machine Interaction, AI-Assisted Research, Epistemology, Ontology of Intelligence, Philosophy of AI, Cognitive Architecture, Embodied Cognition, Situated Cognition, Enactivism, Predictive Processing, Artificial Systems, Limits of Intelligence, Limits of Prediction, Limits of Representation, World Integration, Cognitive Limits, Epistemic Integrity, Human-AI Relations

Content

Abstract....3

Artificial Intelligence and the Problem of World-Binding Intelligence, World Models, and Authorship....6

Introduction....6

The Sweet Spot of Intelligence: *World-Binding, Complexity, and the Limits of AGI*....8

1. Introduction....9

2. Why Complexity Is Not Identical with Intelligence....13

3. Capacity for Action and World-Binding....16

4. The Raster Principle....19

4.1 Why Additional Raster Do Not Solve the Problem....23

5. The Sweet Spot of Intelligence....25

6. Implications for AI, AGI, and Superintelligence....27

7. The Human Position....29

8. Conclusion....32

The Limits of Predictive Intelligence: World Models, World-Binding, and Responsibility...39

1. Introduction....40
2. The Promise of World Models....43
3. The Hidden Axiom of World Models....45
3.1 World-Binding and Irreversible Difference....48
3.2 Responsibility and the Limits of Prediction....51
4. Why Learning Is Not World-Binding and Why It Does Not Solve the Problem....55
5. The Limits of the World Model Paradigm....57
6. Conclusion....58
Communicating with the Unfamiliar and the Incommensurable: Generative AI, Neurodivergent Authorship, and the Transformation of Epistemic Form....63
Abstract....63
1. Introduction: The Wrong Question About AI Authorship....64
2. What Kind of Research Is This? – Thinking in Formation....76
3. Authorship Was Never Identical with Manual Execution....80
4. The Location of Authorship....83
5. AI Is Not Only Thinking or an IQ Gain, but a Significant Remover of Discriminatory Barriers and Structural Obstacles Affecting Certain Minorities....89
6. Interface Text: The Third Space of Readability....95
7. Transformation Through a Foreign Raster: AI as an Externalized Counter-Raster....103
8. The Foreign in the Work: Influence, Appropriation, and the Borrowed Form....114
9. The Person in the Raster: Authorship as Unformatting....121
10. Conclusion: Authorship After Purity....122
References:....126

Artificial Intelligence and the Problem of World-Binding

Intelligence, World Models, and Authorship

Introduction

Volume 20 continues the research movement explicitly formulated in Volume 19 of *Studies in World-Formation*. After *World-Formation Research* was defined as a research programme, the focus now shifts to artificial systems: What happens when technical procedures process ever larger amounts of information, generate increasingly comprehensive models, and intervene ever more deeply in processes of human knowledge and form formation? The volume is not primarily concerned with technical performance limits. It asks instead under what conditions technical operations can meaningfully be understood as intelligence, world-relation, or authorship.

The three studies collected in this volume emerged from different questions, yet together they form a common theoretical movement. *The Sweet Spot of Intelligence* challenges the assumption that intelligence can in principle be scaled without limit. It proposes that intelligence should not primarily be understood as information processing, computational power, or predictive capability, but as a capacity for World-Binding: the irreversible integration of difference into a coherent and actionable world.

From this perspective, the common equation of greater complexity with greater intelligence becomes questionable. World-Binding requires selection, limitation, Raster formation, and local relevance. A system does not become more intelligent simply by taking every possible difference into account. On the contrary, increasing differentiation can undermine the very conditions of integration. The limit of intelligence therefore appears not necessarily as a technical deficit, but as a condition of its effectiveness.

The Limits of Predictive Intelligence carries this question into the contemporary debate on World Models. Its central distinction is: **World modeling is not world-binding.** A model can describe patterns and anticipate future states without itself possessing the irreversible history from which meaning and relevance emerge. Eigenzeit, consequence, and responsibility are not simply additional variables within a model. They arise from concrete world-bindings whose trajectories cannot be fully transferred.

This also shifts the question of AI safety and responsibility. A machine can simulate consequences without having to bear those consequences itself. It can represent a history without having been brought forth by that history. The distinction between model and world is therefore not only an epistemological problem, but also a problem of responsibility. Where prediction is confused with world, the global modeling of relevance risks displacing the local Eigenzeiten from which meaning emerges in the first place.

The third text, *Communicating with the Unfamiliar and the Incommensurable*, brings this problem to the level of epistemic production. With generative AI, the distinction between technical production and authorship becomes immediately visible. If a machine can generate large portions of a linguistic surface, the origin of individual words or sentences is no longer sufficient to determine authorship. The paper therefore proposes distinguishing between execution provenance, work provenance, and the authorial act.

Authorship is understood here not as ownership of a product, but as the relational continuity of an Eigenzeit. A work enters a shared world from a history of decisions, experiences, irritations, corrections, and setzungen, while at the same time altering the future possibilities of the author. Within this process, the machine may generate material, transform forms, or function as a foreign Raster. It does not therefore automatically occupy the same position.

This distinction becomes especially significant in the context of neurodivergent knowledge production. Generative AI can function as an external counter-Raster through which an epistemic form tests its own readability, foreignness, and resistance. The productive object is then not merely the generated output, but the difference between forms: the point at which transformation succeeds, fails, smooths, or forces a new setzung.

A common structure thus emerges across the three texts. The first asks whether **complexity produces intelligence**. The second asks whether **modeling produces world**. The third asks whether **production produces authorship**. In all three cases, a widespread identification is rejected.

More complexity does not necessarily mean more intelligence.

More model does not necessarily mean more world.

More production does not necessarily mean more authorship.

The common theoretical alternative is World-Binding. What matters is not only what a system can process, model, or generate, but whether and how it stands within an irreversible relational history in which differences acquire consequences and alter future possibilities.

Volume 20 therefore examines artificial intelligence neither as a merely technical machine nor as a simplified opposite of the human. Artificial systems are instead treated as specific forms of transformation, modeling, and epistemic mediation. Precisely where they become extraordinarily capable, the distinction between capability and World-Binding becomes particularly visible.

In this sense, the volume continues the central movement of World-Formation Research. It asks not only what artificial systems can do. It asks **what kind of world must already be presupposed for their capabilities to have meaning at all**, what kind of world is altered through their use, and which forms of Eigenzeit, relevance, and authorship are preserved or lost within this transformation.

The Sweet Spot of Intelligence: *World-Binding, Complexity, and the Limits of AGI*

DOI: https://doi.org/10.5281/zenodo.20828692

Abstract

The current debate on artificial intelligence, AGI, and superintelligence is often based on the implicit assumption that intelligence can, in principle, be increased without limit. Larger models, more data, greater computational power, and more comprehensive world models are commonly regarded as steps along an open-ended developmental trajectory. The present paper challenges this assumption.

Starting from a theory of world-binding (Weltbindung), it is proposed that intelligence should not primarily be understood as information processing, predictive capability, or computational power, but rather as the ability of a system to irreversibly integrate difference into a coherent and actionable world. On this basis, it is argued that world-formation necessarily depends on Raster formation, selective stabilization, and non-closure, as elaborated in the author's previous work. Every form of world-binding simultaneously generates a Gap between the bound world and the remaining openness. This Gap does not disappear through additional knowledge but is reproduced through every new act of form-formation.

From this, the paper develops the thesis of a structural sweet spot of intelligence. Intelligence appears neither as a linear function of complexity nor as an infinitely scalable property. Below a certain capacity for differentiation, sufficient world-binding cannot emerge. Above a certain capacity for differentiation, the ability to integrate growing difference begins to disintegrate. Between these two poles lies a region of maximal world-binding capacity.

On this basis, the paper demonstrates why additional complexity, additional models, or additional Raster do not fundamentally solve the problem. Every expansion of world generates new integration requirements and new forms of non-closure. The limit of intelligence therefore appears not as a deficit or failure of its development, but as a condition of its effectiveness. Systems become capable of action not despite their limitations, but through them.

Finally, the implications of this perspective for current AGI, world model, and superintelligence concepts are discussed. The paper proposes that the central limit of future

intelligence systems may not lie in insufficient computational power, inadequate data, or technical restrictions, but in the ontological conditions of world-formation itself. The decisive question is therefore not how intelligent a system can become, but under what conditions a world remains bindable at all.

Keywords: World-Binding, Intelligence, Artificial General Intelligence, AGI, Superintelligence, World Models, Complexity, Non-Closure, Gap, Eigenzeit, Cognitive Limits, Ontology of Intelligence, Emergence, Morphogenesis, Handlungsfähigkeit, Agency, Predictive Processing, Active Inference, Information Theory, Raster Theory, World Formation, Cognitive Architecture, Situated Cognition, Embodied Cognition, Complexity Theory, Edge of Chaos, Irreversibility, Differentiation, Adaptive Systems, Philosophy of Mind, Cognitive Science, Artificial Intelligence, Intelligence Scaling, Limits of Intelligence, Ontological Constraints, World Integration, Epistemology, Systems Theory, Neurodiversity, Enactivism, AGI Safety, World-Building, Morphogenetic Pressure, Relational Ontology, Artificial Life, Cognitive Boundaries, Structural Limits, World-Binding Capacity.

1. Introduction

The idea of infinitely scalable intelligence belongs to the implicit assumptions of the present age. It permeates large parts of artificial intelligence, cognitive science, information science, and many technological visions of the future. Although these approaches differ considerably in their methods, definitions, and objectives, they often share the same underlying assumption: intelligence appears as a quantity that can, in principle, be increased indefinitely. More information, greater computational power, more connections, larger models, more complex simulations, and more comprehensive world models are regarded as steps along an open path whose upper limit is unknown or perhaps does not exist at all.

Unlimited intelligence is often treated as a kind of solution to everything. Yet it is becoming increasingly questionable whether intelligence is something that can be scaled indefinitely without destroying its ontological foundation.

By contrast, the possibility that intelligence itself might possess a structural limit is rarely considered. There are, of course, numerous investigations into the practical limitations of biological and technical systems. Energy costs, storage capacity, information processing, bounded rationality, and the finiteness of material resources are frequently discussed. However, the possibility that intelligence may not merely be factually limited, but bound by conditions that fundamentally exclude unlimited growth, remains largely unexplored.

At the same time, evidence is accumulating across different fields of research that a linear conception of intelligence may be insufficient.

In cybernetics, Ashby formulated the Law of Requisite Variety and pointed out that increasing complexity cannot be controlled indefinitely. Complexity research introduced the notion of the "Edge of Chaos," a region between rigidity and dissolution within which complex systems achieve their highest adaptive capacity. In ecology, studies of diversity and stability show that neither maximum homogeneity nor unlimited diversity produces the most robust systems. Michael Levin's research on morphogenesis highlights the remarkable ability of biological systems to generate stable forms without those forms being fully stored as information. Within neurodivergence research, concepts such as Monotropism, Intense World Theory, and Veridical Mapping suggest that increased resolution, intensity, or precision does not necessarily lead to a linear increase in adaptability, orientation, or world integration. Even in physics, similar motifs can be found whenever order appears to depend upon conditions of local stabilization.

What is remarkable is not the diversity of these approaches but their structural similarity. The same pattern repeatedly emerges. Order does not arise at the extremes.

Neither maximal simplification nor maximal complexity appears to produce the most productive states. Form formation, cognition, stability, and adaptability seem instead to emerge within limited ranges, beyond which systems either become rigid or disintegrate.

Nevertheless, these observations usually remain confined to their respective disciplines. Complexity research speaks of self-organization. Morphogenesis speaks of form formation. Cognitive science speaks of information processing. AI research speaks of scaling. What is largely missing is a common theoretical framework within which these phenomena become visible as expressions of a more fundamental problem.

The present paper develops such a framework.

Its point of departure is not intelligence itself, but the conditions of its possibility.

It proceeds from the assumption that intelligence cannot be understood as an isolated property of a system. Intelligence is understood here neither as an amount of information, nor as computational capacity, predictive capability, nor as the ability to generate ever more comprehensive world models. Instead, it is proposed that intelligence should be understood as a particular form of world-binding capacity (*Weltbindungsfähigkeit*).

World-binding (*Weltbindung*) denotes the ability of a system to irreversibly integrate difference into a coherent and actionable world.

This shift builds upon earlier work in which information was described not as the origin of world, but as the consequence of successful world integration. Likewise, emergence was not understood as a product of intelligence, but intelligence as a secondary stabilization of emergent processes. The perspective developed here brings these considerations together and extends them by asking whether world-binding itself is subject to structural limits.

The question is therefore not merely how much information a system can integrate. The question is under what conditions information becomes order, order becomes world, and world ultimately becomes accessible through intelligence.

This is where the present work differs from many related approaches in contemporary research.

While complexity research often stops at self-organization, the present work asks why self-organization becomes necessary in the first place. While Predictive Processing and World Model approaches investigate the optimization of prediction, the present work asks how a world emerges within which predictions become possible at all, and why they must simultaneously fail. While information-based approaches treat information as a fundamental quantity, information is examined here as the consequence of successful world-binding. As described in earlier work, this binding results from Recursion and from the resulting Morphogenetic Pressure, through which information becomes deeply unstable within a world because it can never be reduced identically back onto itself. It is continually confronted with new openness that distorts it through Recursion itself.

While many AGI concepts assume that larger models generate more comprehensive worlds, the possibility explored here is that additional complexity may undermine the very conditions of world-binding. More information may be produced, but not necessarily more order. Information may be accumulated without genuine Recursion taking place—without the distortion that preserves openness.

The perspective developed here does not stand in isolation. Similar tensions can be found in complexity research, in the work of Levin, Gibson, Dreyfus, and Bateson, as well as in neurocognitive approaches such as Monotropism, Intense World Theory, and Veridical Mapping. What unites them is the observation that greater resolution, stronger differentiation, or higher complexity do not necessarily lead to greater orientation.

This is largely because orientation is not merely a matter of flat sorting, but also of cross-relations, locality, subjective significance, and additional factors. Information is not neutral within the real world.

The present work builds upon these observations while pursuing a more specific path. It does not primarily ask about the limits of particular systems, bounded rationality, embodied cognition, or the conditions of biological self-organization. Its starting point lies one level deeper. At its center stands the question under what conditions a world becomes bindable at all, and what this implies for the concept of intelligence.

In precisely this respect, the present perspective also differs from current World Model approaches, Predictive Processing, and many AGI concepts. While these approaches typically investigate how systems can reduce uncertainty, improve predictions, or generate more comprehensive models, the present work also asks whether the complete reduction of uncertainty is a meaningful goal at all. Many contemporary approaches implicitly assume that the expansion of models simultaneously constitutes an expansion of world. The more

differences are integrated, the more intelligent the system appears. The possibility that world-binding itself may possess an optimal range is rarely examined.

The Gap Theory (MNO), by contrast, suggests that non-closure is not a deficit of world formation but its condition. The problem is therefore not that intelligence remains incomplete. The problem may instead be that a fully closed intelligence would lose its own capacity for action. As we shall see later, this also has consequences for responsibility and safety.

From this perspective, the limit of intelligence does not appear as the failure of its development. It appears as the condition of its effectiveness. Systems become capable of action not despite their limitations, but through them. Only through this can information become order, order become world, and world ultimately become intelligence.

If world-binding is indeed bound to conditions of non-closure and Eigenzeit, then the entire question shifts. The size of a model becomes secondary to the conditions of its integration into world.

The present work therefore investigates not primarily the technical limits of current systems. It investigates the possibility that AGI encounters an ontological limit that does not arise from insufficient computational power, inadequate data, or flawed architectures, but from the conditions of world formation itself.

From this follows a consequence that contradicts most contemporary models of intelligence.

If world-binding depends upon the formation of limited Raster—by which are meant resolutions comparable to pixel densities in an image—then information may potentially grow without limit, while intelligence cannot. The resolution of a Raster determines what forms of order can appear within it. Below a certain level of complexity, insufficient world-binding emerges for order to become visible. Above a certain level of complexity, the stability of world-binding begins to disintegrate once again. The system does not necessarily become more intelligent. Rather, it loses the ability to integrate growing difference into a coherent world.

From this, the present work develops the thesis of a structural sweet spot of intelligence.

Intelligence appears neither as a linear function of complexity nor as an infinitely scalable property. It emerges instead within a tension between difference and binding. Too little difference generates no world. Too much difference destroys world. Between these two poles lies a region of maximal world-binding capacity.

The central question is therefore:

Under what conditions does a world remain bindable at all?

By bindable is meant that difference becomes irreversible and thereby defines a world, from which order emerges that can be read as intelligence. This implies that order which is not bound, which does not become world, develops meaning only from within the world of an intelligence, and that the limit of intelligence within that world lies precisely there.

For if intelligence is a form of world-binding, then its limits may not lie in an abstract system. They lie in the structure of the world to which that system is bound.

This means that maximally amplified intelligence eventually ceases to make sense within an existing world because it can no longer bind itself to it. Through Recursion it no longer arrives at order. It may still attempt to find order through free association, but then breaks apart within the feedback process itself.

An imperfect cube and a chaotic circle can still be associated as related within certain limits. If they collapse only onto copies of themselves, they lose their binding to themselves. A cube or a circle exists as such only within a context. Absolute reification therefore results in a loss of meaning because insufficient deviation and difference remain for the object to be recognized as such within space. This binding requires the right mixture of deviation, difference, and openness. Binding capacity is therefore not an infinitely scalable quantity but a relation between circle and cube.

The critique developed here is therefore directed not against the possibility of artificial intelligence, but against the assumption of a linearly scalable world-binding capacity. Even if a superintelligence were to exist, it would not automatically follow that its insights would be relevant within the human world. It may appear as insignificant in everyday human life as the song of a bird. It may constitute a highly complex language. Humans may recognize artifacts within it. Yet this intelligence would exist in another space, another time, another reality. It is not bound within the same Eigenzeit and increasingly becomes a glitch, an irritation, a wound at the limits of overlap.

Curiously, many people today assume that an AI would intervene from outside human systems as something vastly more intelligent than humans themselves. What is overlooked is that relevance depends upon world-binding. Where no world-binding exists, meaning begins to dissolve, driving an increasing separation between intelligence and problem-solving capacity. For what exactly is being solved, and for whom, if one is not part of a world?

2. Why Complexity Is Not Identical with Intelligence

The assumption that intelligence increases with growing complexity appears almost self-evident at first glance. A system that possesses more information, recognizes more relationships, processes more data, and takes more possibilities into account seems, at first, better adapted to the world than a simpler system. A large part of modern cognitive science and AI research is based on precisely this idea. Intelligence appears here as a kind of accumulation process. More computational power enables larger models. Larger models enable more knowledge. More knowledge produces better predictions. Better predictions eventually give rise to a higher form of intelligence.

The plausibility of this view depends largely on the fact that complexity and intelligence are usually treated as if they were the same thing.

It is precisely this equation that is problematic. It is similar to equating information with order.

For even a brief look at natural systems shows that complexity by itself does not generate orientation. The world contains unimaginable amounts of difference. Every leaf on a tree differs from every other leaf. Every stone possesses a nearly infinite number of possible properties. Every moment contains more information than any organism could ever process. If intelligence actually consisted in capturing these differences as completely as possible, every intelligent system would necessarily fail under the complexity of the world. It would be permanently overwhelmed and fall into chaos and disorientation.

Nature additionally possesses no central observer who controls everything, for whom generalized information would always mean the same thing. When information becomes order, its meaning changes once again.

Information as infinity therefore does not imply maximum control, but rather an absolute loss of reference and relation. Every piece of information presupposes the loss of other information. This is what constitutes relevance.

Without this loss, world would be finite. Yet it cannot be finite, because otherwise it could not exist as world. If the world were a simulation, it would in fact be explainable down to the last "thing," meaning that significance would exist from a single perspective alone. Yet nearly everything we know today about the universe speaks against this. The opposite appears to be the case.

Intelligent systems are characterized precisely by the fact that they do not perceive everything. They select. They reduce. They filter. They form Raster. They form Eigenzeit relations.

The essential achievement of intelligence is not to capture every difference, but to distinguish relevant differences from irrelevant ones. This serves not primarily the recognition of all being, but the binding of world within a local relation. Relevance is therefore not truth. Relevance is the condition of order within a particular Eigenzeit.

Already this observation fundamentally changes the question.

If intelligence depends upon selection, then it cannot simply be understood as a function of growing complexity. Every act of selection simultaneously generates blindness. Every Raster makes certain differences visible and others invisible. Every form of orientation depends upon an active reduction of possible world.

This becomes particularly clear when one considers systems confronted with too much difference.

An organism that treats every perception as equally important loses its capacity for action. A scientific model that attempts to include every variable simultaneously loses explanatory

power. A society that no longer possesses any shared orders of relevance loses its capacity for integration. In all cases, the result is not more orientation but less.

Complexity begins to turn against itself. Relevance is not a neutral quantity decided from the outside. It is a binding condition of Eigenzeit. It is tied to a particular Eigenzeit.

A completely blurred perception contains too little difference to generate stable forms. A perception with infinitely high resolution would likewise fail to generate stable form. It would dissolve into countless details. Visibility emerges not at either extreme, but between them.

Relevance requires two things: limitation and local binding.

The same pattern appears throughout nature.

Ecological systems require diversity in order to remain stable. If diversity is absent, rigid monocultures emerge. If diversity exceeds the possibilities of mutual binding, the system fragments into disconnected parts. Similar dynamics can be observed in social systems. Too much homogeneity produces rigidity. Too much unconnected difference produces disintegration.

Complexity research describes such states as transitional regions between order and chaos. Recent studies of cortex-like neural networks provide a remarkable technical analogy. Contrary to the intuitive assumption that a greater number of connections automatically leads to better performance, large recurrent networks often show the opposite. Sparse architectures learn faster, require less data, and distribute information more robustly across the network than highly dense connectivity structures. Additional connectivity therefore does not increase system performance indefinitely. Beyond a certain point, it begins to undermine the conditions of efficient integration. The decisive limit lies not merely in the amount of available information, but in the ability of a system to bind difference within a stable organizational structure. Here again, performance appears not at a maximum of connections, but within a limited range of structural complexity (Elmenhorst et al., 2026).

Complexity alone does not explain why a system gains orientation. By itself, it contains no Recursion. It does not explain why a particular difference becomes relevant. It does not explain why something acquires meaning. Above all, it does not explain why a system should be capable of producing a concrete world from the infinite openness of possible differences.

And here one can see three fundamental problems of AI.

Ultimately, it selects arbitrarily and replaces consequences with predictions and probabilities.

Humans, by contrast, select through inner and outer constraints, through the consequences of their history. Consequences lead to necessary ambiguities, compromises, open relations, and a great deal of failure. In doing so, they bind themselves to a reality; they do not optimize it to the point of their own complete interchangeability.

Intelligence possesses no omnipotent problem-solving capacity in a reality where Raster make certain forms of order fundamentally unrepresentable, even though an intelligence in

another world might theoretically be able to think them. The greatest thinkers in human history have not produced an ideal world, because the ideal and the actual conditions of life do not operate on the level of intelligent solutions. They are consequences of concrete world-binding. This explains why certain intelligent ideas require their own time before they can even become understandable, let alone realizable.

A library contains more information than a human being. That does not make it more intelligent. A language model can store more texts than any individual person. It does not automatically follow that it possesses greater world-binding capacity. Even a hypothetical system that integrated all available data on Earth would still not have explained why a world should emerge from those data.

Certain forms of intelligence can undoubtedly be boosted through larger stores of data. Yet scientific progress itself has not developed exclusively along the axis of intelligence, as the work of Feyerabend and Kuhn illustrates. Science depends to a large extent upon questions. Questions require relations of relevance. Relevance, however, is bound to world.

The question therefore shifts.

Not:

How much complexity can a system process?

But:

How much complexity can a system transform into a coherent world?

This shift appears minor at first. In reality, however, it changes the entire discussion.

Every additional difference increases not only the resolution of a system. It simultaneously increases the pressure on its capacity for stabilization. This is something we can already observe today in the relationship between AI models and the world of work. Every expansion of the Raster generates new forms of non-closure. Every new order produces new disorder.

3. Capacity for Action and World-Binding

The preceding considerations lead to a fundamental shift in the concept of intelligence.

As long as intelligence is understood primarily as information processing, the question of its limits appears largely as a technical problem. The central challenge then consists in integrating larger amounts of data, developing more powerful models, or capturing more complex relationships. Within this perspective, intelligence grows with a system's ability to represent, simulate, or predict ever larger portions of reality.

The preceding analysis suggests, however, that this view skips a decisive step. Before information can be processed, a world must first emerge within which something can appear as meaningful information. Information is never without preconditions.

The concept of world-binding (*Weltbindung*) does not simply refer to environmental contact. Nor does it refer merely to perception or sensory coupling. A thermostat possesses environmental contact. A camera system possesses environmental contact. An autonomous vehicle possesses environmental contact. None of these systems necessarily develops a world as a result.

World-binding must likewise not be confused with learning. Many systems can modify their behavior on the basis of past experience. They update weights, probabilities, or strategies. Yet this alone says nothing about whether a world has emerged.

World-binding begins where the encounter with difference changes the conditions of future world-relations. The decisive point is not that a system reacts to an experience. The decisive point is that the experience itself becomes part of the structure through which later experiences can appear at all.

The difference is subtle, but fundamental.

The example of driving a car does not simply demonstrate that humans possess more implicit prior knowledge than artificial systems. The decisive point is not that a person knows more or can draw upon hidden stores of data accumulated throughout life. The decisive point is that human capacity for action does not emerge from complete knowledge.

A person does not drive because the situation has been fully modeled. A person drives because they remain capable of action within a limited but open world-binding. They do not know what will happen in the next moment. They cannot calculate every movement, intention, mistake, coincidence, or deviation in advance. If they attempted to do so, they would not become more capable of action. They would become paralyzed.

Capacity for action emerges precisely where world is not fully closed. It emerges within a region between binding and openness. Enough world must be stabilized for orientation to become possible. At the same time, enough non-closure must remain so that the unexpected can still be encountered.

In this context, intelligence is not the prerequisite of action but a secondary form of its stabilization. Humans do not act because they are first intelligent enough. Intelligence emerges instead as a consequence of an already ongoing world-binding that must be stabilized under the conditions of the Gap.

The Gap denotes the structural difference between a bound world and the remaining openness.

The self-driving car illustrates the opposite structure. It must generate its capacity for action through modeling, prediction, control, and the reduction of openness. Its safety does not arise from world-binding but from the restriction of possible world, and therefore also from

the restriction of expanded intelligence. It does not act from an existential middle between binding and non-closure but along calculated state spaces. Wherever these state spaces become too open, the system must slow down, evade, stop, or artificially narrow its scope of action.

This makes visible that more prediction does not necessarily generate more capacity for action. Beyond a certain point, additional modeling may even weaken the capacity for situational binding.

A learning system can integrate new information without changing the structure of its world. It improves its adaptation within an already given space of possibilities. World-binding, by contrast, begins where this space of possibilities itself shifts. Not only does the response to a situation change, but the way in which situations can appear in the future changes as well. A human system learns, but it also forgets. What has been learned does not preserve itself identically. It becomes increasingly distorted, which is the precondition of openness, and therefore also of adaptation.

World-binding begins where differences are not merely registered but enter irreversibly into the further structure of a system, while simultaneously remaining incapable of being reduced back onto themselves without loss. It begins where the encounter with difference changes the conditions of future encounters. World does not emerge from contact. It does not emerge from information. It does not even emerge from learning. World emerges from binding and from loss.

At the same time, this binding limits a system. It generates perspective, selectivity, and blindness. Yet precisely therein lies its productive function. A completely open system could not act. A completely closed system could not act either. Capacity for action emerges between these poles. It presupposes a limitation of possible world.

For this reason, limitation appears here not as a deficit of intelligence. It appears as a condition of its possibility.

This distinction is crucial. It makes visible that world is not simply given. World must be generated. It does not emerge as a representation of an already finished reality but as a consequence of irreversible stabilizations within an open field of possible differences.

Every new order generates new non-closure. Every new world generates new limits of its own world.

Here may lie the deeper reason why intelligence cannot be understood as a linear accumulation of knowledge. A system that integrates ever more differences does not merely expand its world. It simultaneously expands the limits of that world. It increases not only its order but also the domain of that which escapes this order.

This means that intelligence cannot be described through integration alone. It must simultaneously be described through the ability to deal with growing non-closure.

At this point, the significance of Eigenzeit becomes visible, a concept already extensively developed in the author's previous work.

Eigenzeit denotes the irreversible deformation of a space of possibilities that arises through real world-binding. It does not describe the storage of states, but rather the fact that every binding changes the conditions of future bindings. A world possesses history because it cannot be fully reduced to its present state. It carries within itself the traces of its own emergence.

Against this background, intelligence no longer appears as a collection of abilities. It appears as a process of stabilization under conditions of permanent non-closure.

An intelligent system is therefore not the system possessing the greatest amount of information. It is the system capable of maintaining a coherent world despite growing difference.

The question is therefore no longer how much intelligence a system can possess. The question becomes:

How much world can a system bind before the conditions of this world-binding begin to disintegrate?

The dominant view assumes that the highest form of intelligence is simultaneously the highest form of capacity for action. The theory developed here suggests the opposite. Beyond a certain point, additional differentiation, additional modeling, and additional prediction may weaken a system's capacity for action.

The limit of intelligence therefore does not mark the point of its failure. It marks the region within which action remains possible at all.

4. The Raster Principle

Before further developing the idea of the Sweet Spot, it is useful to examine the Raster principle more closely.

When observing a forest from a great distance, only coarse forms initially appear. Individual trees disappear. Differences between leaves, branches, or bark structures become invisible. The resolution is too low.

As one approaches the forest, new forms emerge. Trees become visible. Species become distinguishable. Relationships between individual elements come into view. The world becomes more differentiated.

However, if the resolution is increased further and further, a curious process begins. The tree dissolves into branches. The branches dissolve into fibers. The fibers dissolve into cellular structures. The cellular structures dissolve into molecular processes. The molecular processes dissolve into further differences.

At some point, the tree disappears again.

Not because too little is visible.

But because too much becomes visible.

The form dissolves into difference.

This example points toward a general structural problem. Below a certain resolution, no stable world emerges. Above a certain resolution, no stable world emerges either.

World appears only within a limited range of differentiability.

This observation has far-reaching consequences. For it concerns not only perception. It concerns every form of world-binding.

A language with too few concepts loses its expressive capacity. A language with infinitely many concepts loses its intelligibility. A society with too little diversity becomes rigid. A society with infinitely many disconnected differences falls apart. A science with too little specialization remains superficial. A science with unlimited specialization loses its common points of reference. A nervous system with too little sensitivity becomes blind to relevant differences. A nervous system with infinite sensitivity becomes flooded by difference.

In all cases, the same structure appears.

Order does not emerge at the extremes.

Order emerges within a range of limited difference.

Additional difference initially increases world-binding capacity. Beyond a certain point, however, it begins to undermine that capacity once again.

Recent studies of cortex-like neural networks show that increasing connectivity does not necessarily lead to more efficient information processing. On the contrary. In large recurrent networks, sparse connections improve learning performance, robustness, and data efficiency. Densely connected systems often distribute information across fewer nodes and develop more fragile representations. The limit therefore appears not to lie solely in the amount of available information, but in the conditions of its organizational integration (Fruengel & Oberlaender, 2025).

Interestingly, a comparable pattern can even be found at the level of biological nervous systems. Recent studies on synaptic homeostasis suggest that the brain does not maintain its performance through the unlimited accumulation of connections (Elmenhorst et al., 2026). During extended periods of wakefulness, both the number and strength of synaptic bindings increase. Sleep, by contrast, appears not merely as a period of rest but as a process of selective reduction and reorganization. The performance of the system therefore emerges not from maximum connectivity but from a dynamic balance between differentiation and limitation. Too little connectivity produces insufficient world-binding. Too much connectivity increases integration pressure to a point at which coherence itself becomes endangered. Here again, a biological Sweet Spot appears between under-differentiation and overload.

For every new difference generates not only new visibility. It simultaneously generates new non-closure. And it also generates conflicts.

A kind of morphogenetic counter-movement emerges. Every new form formation generates new unformability. Every new order generates new openness. Every new stabilization generates new instability.

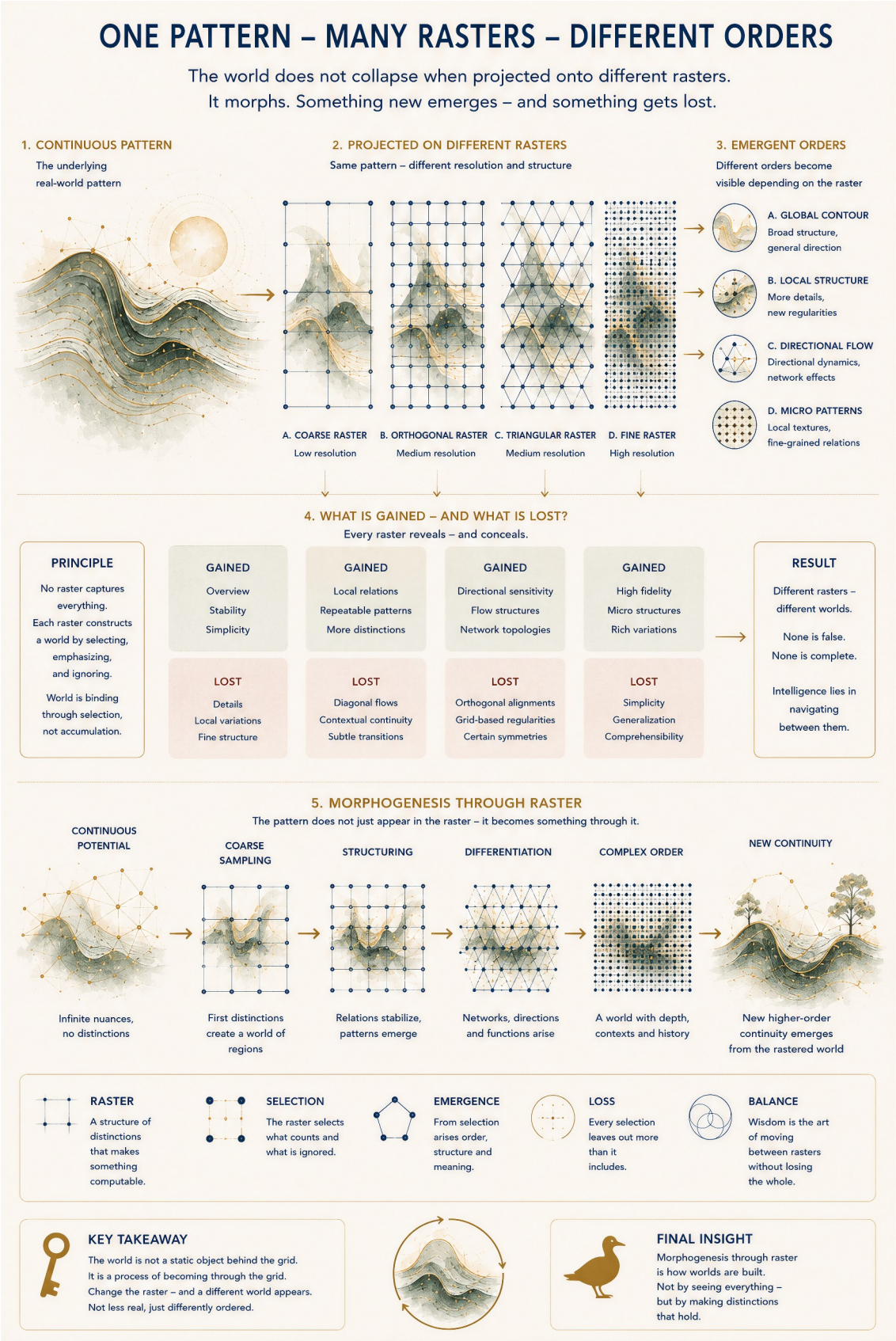
If this is correct, a far-reaching consequence follows.

Intelligence operates within a limited range of Raster stability. This range is not merely an optimum of cognition. As already discussed, it is an optimum of capacity for action. A system that attempted to integrate every difference would lose its ability to act within a concrete world.

The limit of intelligence therefore appears not as the failure of its development but as the condition of its effectiveness.

The question is no longer whether such a Sweet Spot exists.

The decisive question is how its structure can be described and what consequences follow from it for biological, social, and artificial forms of intelligence.



At this point, it becomes clear that order must not be confused with information. Information initially describes nothing more than differences. A pattern may contain

information without already constituting order for a system. Order emerges only where differences act back upon an observer, a feedback loop, or an existing structure. It does not appear at the level of isolated information, but at the moment of Recursion, when a system responds to its own differences. Only then does the possibility of stabilization, orientation, and meaning arise. Order is therefore neither identical with information nor with pattern formation. It emerges from the relationship between difference and feedback. The decisive point is that this feedback can never be fully closed. It is precisely from this non-closure that the tension emerges which makes world-binding, Eigenzeit, and ultimately intelligence possible in the first place.

4.1 Why Additional Raster Do Not Solve the Problem

At this point, one might object that the argument developed so far applies only to individual Raster. Even if every Raster possesses a limited range of productive resolution, it does not necessarily follow that intelligence itself is limited. A system could simply generate additional Raster. It could combine different perspectives. It could place meta-Raster over existing Raster and thereby overcome the limits of individual modes of world access.

This idea is found implicitly in many contemporary concepts of artificial intelligence. If one model is insufficient, a larger model is created. If one perspective appears too narrow, additional perspectives are added. The solution to the limits of a Raster seems to lie in generating more Raster.

The theory of world-binding, however, suggests that this does not eliminate the actual problem.

For multiple Raster must themselves be bound. And binding presupposes loss. Only through loss does relevance emerge.

Every additional Raster generates new differences between Raster. New translation problems arise. New conflicts. New inconsistencies. New forms of non-closure.

The situation resembles a dictionary.

A single word can be explained through additional words. Yet these new words themselves require further explanations. The number of possible relations grows faster than their complete integration.

The same applies to world formation.

A Raster can be supplemented by further Raster. Yet the relations between Raster generate a new level of complexity that must itself be bound. The limit is therefore merely displaced. It does not disappear.

From the perspective of Eigenzeit, an even more fundamental problem emerges.

Raster are not neutral tools that exist independently of one another. They emerge through world-bindings. Every Raster carries within itself the traces of the history from which it emerged. It possesses its own selectivity, its own blind spots, and its own conditions of relevance formation. Two Raster can therefore never be fully identical. They overlap. They contradict one another. They complement one another. They generate glitches. Precisely for this reason, their integration cannot proceed through simple addition.

One must abandon the idea that the world is a broken puzzle that can simply be reassembled through sufficient intelligence. The problem is that the pieces do not exist within the same time, nor within the same space. Their non-additivity is the very condition under which space and time exist at all. The concept of Eigenzeit makes space and time relationally dependent upon non-closure.

A particular experience—something that exists only within a particular Eigenzeit or Eigenzeit relation—cannot be transferred losslessly across Eigenzeiten. Raster possess different resolutions, leading to different projections of order. There is information that becomes a particular meaning within Eigenzeit, and there are informational artifacts transferred from other Eigenzeiten. It is precisely for this reason that we possess symbols of something and, simultaneously, real experiences. The idea that both forms of information could be combined arbitrarily into one great map of the world is roughly as absurd as confusing two-dimensionality with three-dimensionality.

One would inevitably homogenize meaning and thereby ultimately destroy worlds. They would simply become invisible. For the meta-Raster would itself have to decide which differences are relevant and which are not. This presupposes the existence of universal meaning. Yet no such universal meaning exists. It would contradict world itself.

The idea of a fully integrated perspective therefore leads into a regress. Every attempt to overcome the limits of one Raster through another Raster generates new limits at a higher level. Here may lie the deeper significance of the Gap.

The Gap does not repeatedly appear because systems know too little. Nor does it appear because individual Raster are defective. It appears because world formation is fundamentally possible only through selective stabilization. Every new stabilization generates new differences. Every new difference generates new integration problems. Every new integration generates a new Gap.

At the same time, the Gap protects meanings within an Eigenzeit because it prevents infinitely free association. In this respect, it functions similarly to objectification itself.

The limit of intelligence may therefore not lie within any particular Raster. It may lie in the fact that world can only become bindable through Raster in the first place.

More Raster cannot abolish this condition.

They reproduce it.

5. The Sweet Spot of Intelligence

For centuries, knowledge has been equated with progress. More knowledge appears as better knowledge. More insight appears as greater freedom. More differentiation appears as higher intelligence. The idea of unlimited growth in knowledge was gradually transferred to machines. If humans can become more intelligent, why should machines not become even more intelligent? If a human can solve a problem, why should a sufficiently complex machine not solve even more problems? The process consists in isolating the property of humans that appears most useful and then replicating and scaling it indefinitely.

The decisive blind spot in this line of reasoning is that it treats intelligence as an isolated property. The perspective developed here proceeds from the opposite assumption. Intelligence does not exist independently of world-binding.

It is not a substance.

Not a resource.

Not a storage system.

Not computational power.

It is a relation.

More precisely, it is a relation between difference and stabilization.

This changes the entire geometry of the problem.

A super-intelligent worm would be a paradox. Not because we would then have to share university resources with it, but because superintelligence would constitute an ontological threat to the worm's existence as a worm. There would be a rupture in the balance of its Raster, in its relevances, and in the conditions of its existence. Evolution does not prevent a worm from becoming more intelligent than a human because such a worm would require a gigantic brain. Rather, the worm is the expression of a particular world-binding (*Umwelt*) within a particular Raster. Intelligence would not be an advantage here. It would be a substantial problem.

As the number of differences becomes too large, the coherence of the world begins to erode. The system recognizes more and more, yet understands less and less how what is recognized belongs together. It understands less not because computational power is lacking, but because its own existence would have to transcend itself ever further. Up to a point at which one could no longer speak of existence at all. Such a supercomputer would no longer be a computer, but a “something” operating within an Eigenzeit of such extreme resolution, if it could still be said to possess one at all, that it would scarcely retain an identity, let alone an existence. For existence, as demonstrated in the author's earlier work, presupposes loss.

Intelligence cannot be conceived without existence. Existence is always a limitation of the capacity for knowledge and therefore of world-binding.

The worm might possess knowledge of arms and legs, but such knowledge would remain closed information without any open possibility of further development. In the same way, we cannot develop, nor should we develop, the echolocation of a bat on behalf of the bat. The world would grow faster for the bat than its capacity to bind itself to this new reality. It could not transcend itself, because the basis of being a bat already presupposes a particular form of loss that cannot simply be added to without ontologically destroying the bat itself.

The consequences of this consideration extend far beyond the question of artificial intelligence. They concern the structure of cognition itself.

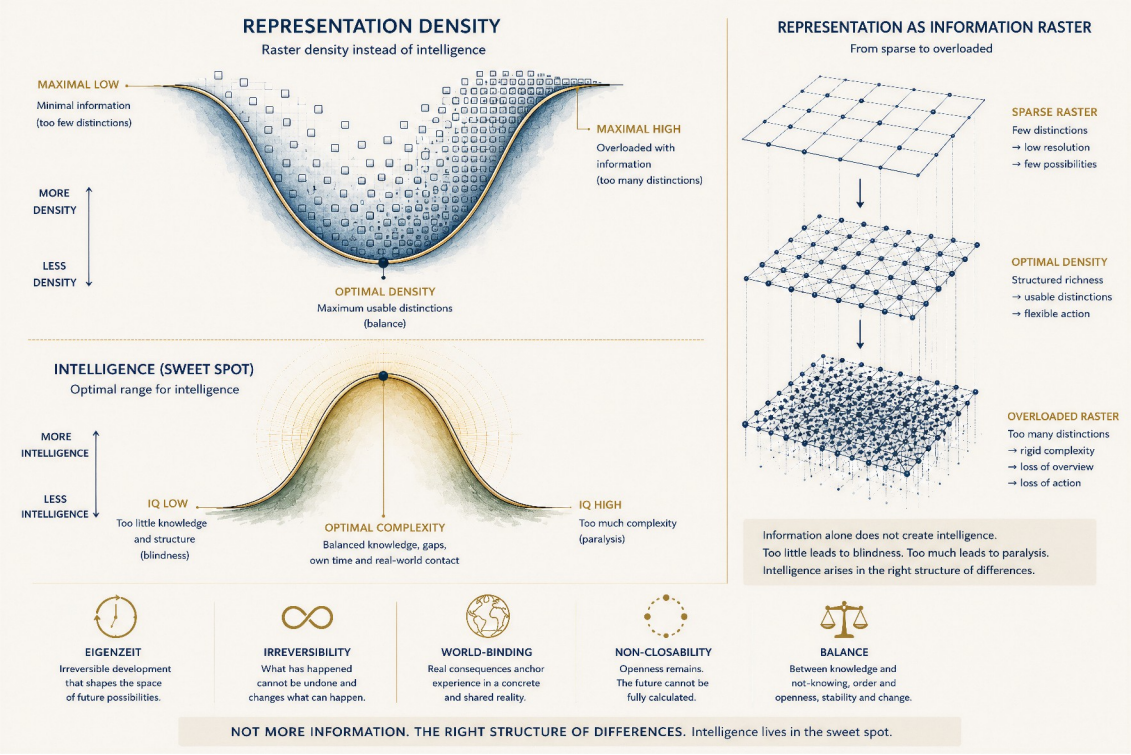
For if intelligence possesses a Sweet Spot, then the central question changes.

Not:

How can we build ever more intelligent systems?

But:

How much intelligence can a world sustain before its own bindability begins to disintegrate?



6. Implications for AI, AGI, and Superintelligence

The preceding considerations lead to a consequence that affects a large part of the current debate on artificial intelligence.

This consequence does not arise from an analysis of current AI systems but from the general theory of world-binding. The decisive question is therefore not what capabilities present or future systems will possess. Rather, it is whether the fundamental assumptions underlying the current AGI and superintelligence debate are themselves sustainable.

Almost all contemporary AGI scenarios rest upon the same premise. Whether one speaks of gradual improvement, an intelligence explosion, or a technological singularity, they share the assumption that intelligence is, in principle, open-ended and arbitrarily scalable. The theory of world-binding calls precisely this assumption into question.

If intelligence is not primarily information processing but world-binding capacity, then its development cannot be considered independently of the conditions of world formation. The question shifts from computational power to binding capacity.

This has far-reaching consequences.

Many contemporary AI models implicitly rely on the assumption that additional complexity generates additional world. Larger models are expected to produce more comprehensive world models. More data are expected to enable more accurate representations. Better predictions are expected to result in a higher form of intelligence.

The argument developed thus far suggests, however, that this chain breaks at a decisive point.

More difference does not automatically generate more world. More information does not automatically generate more world-binding. More complexity does not automatically generate more intelligence.

Rather, every expansion of a model simultaneously creates growing pressure on its ability to coherently integrate the differences that emerge. This applies not only to artificial systems. It also applies to biological organisms, scientific theories, social institutions, and cultural orders.

The current AI debate frequently treats this relationship as a technical problem. Models are assumed to be insufficiently large, datasets insufficiently extensive, or architectures insufficiently mature. The perspective developed here suggests another possibility. Perhaps AI systems do not encounter limits because they are not yet complex enough. Perhaps they encounter limits because world-binding itself is not infinitely scalable.

Even simple biological systems demonstrate that adaptive problem-solving does not necessarily emerge from ever more comprehensive representations. The slime mold *Physarum polycephalum*, for example, develops neither symbolic world models nor central control structures, yet still produces robust forms of situational orientation (Schick et al.,

2026). This suggests that world-binding may emerge primarily from the stabilization of relational dynamics rather than from the accumulation of ever more detailed representations.

From this perspective, many contemporary discussions appear in a different light. The question of artificial consciousness becomes secondary. The question of self-reference becomes secondary. Even the question of general problem-solving ability becomes secondary. Before all of them stands another question:

Can world-binding capacity, and therefore capacity for action itself, grow without limit? Is there such a thing as maximal capacity for action beyond adequate world-binding, or is the absence of such binding one of the central problems of our time?

If the answer is negative, the entire architecture of the debate changes. The central limit of artificial systems would then not be insufficient intelligence. Their central limit would instead lie in the structure of the world to which they are expected to bind themselves.

This does not mean that future systems will not surpass humans in many domains. They probably will, just as machines already outperform humans in numerous specialized tasks today. Nor does the theory developed here claim that humans represent the most intelligent beings conceivable. It merely claims that the relationship between intelligence and world-binding is not arbitrarily scalable.

A system could therefore become ever more powerful while nevertheless reaching a structural limit of world formation. One might even describe this as a limit of the legitimacy of capacity for action.

Interestingly, this would explain why many current developments appear simultaneously impressive and disappointing. Language models produce texts of astonishing quality. Image generators create remarkable images. Planning systems solve highly complex optimization problems. At the same time, there often remains a peculiar impression of worldlessness.

These systems possess knowledge, but no history.

They possess patterns, but no losses.

They possess models, but no Eigenzeit.

For precisely this reason, their achievements often appear both intelligent and alien.

They resemble world without necessarily being world.

The theory developed here does not explain this impression through insufficient computational power or inadequate training data. It explains it through the distinction between simulation and world-binding.

Simulation reproduces states.

World-binding generates irreversible history.

Simulation reproduces structures.

World-binding generates Eigenzeit.

Simulation can grow.

Eigenzeit must emerge.

A further consequence follows from this.

The greatest danger of future AI systems may not lie in limitless superintelligence. It may lie in the social confusion of simulation with world-binding. The more powerful models become, the easier it becomes to assume that they have captured the world itself. In reality, they may merely generate ever more precise simulations of already stabilized world-relations.

The situation resembles an increasingly detailed globe. The globe can become ever more accurate. It does not thereby become the Earth.

At precisely this point, the debate on artificial intelligence becomes a debate on ontology.

The question is no longer:

How intelligent can machines become?

But rather:

What forms of world can emerge through them at all?

And does the structure of world itself possess limits that cannot be overcome even through unlimited technical scaling?

If this is the case, then the vision of unlimited superintelligence is not problematic because it is too ambitious. It is problematic because it may rest upon a mistaken conception of intelligence.

In that case, it would not be the machine that is limited.

It would be the world itself.

7. The Human Position

The argument developed so far could easily be misunderstood.

It could be read as an attempt to defend human intelligence against artificial intelligence. One might assume that the actual goal is to preserve the exceptional status of human beings or to relativize the possibility of future technological developments.

None of this is intended.

The present theory neither claims that humans are the most intelligent beings nor that artificial systems are, in principle, incapable of generating new forms of world-binding. Nor does it claim that the current human form of cognition represents the endpoint of development.

The real question is whether human existence may operate closer to a structural optimum of world-binding than many contemporary visions of the future assume.

This is a different claim.

For it concerns not the magnitude of intelligence but its fit.

In contemporary debates, human intelligence is often treated as an intermediate stage. Humans appear as an evolutionary transitional product that could eventually be replaced by more powerful systems. The decisive question then becomes how much more intelligent such systems might become and what consequences would follow.

The theory of the Sweet Spot suggests a different perspective.

If world-binding depends upon particular conditions, then the relevant question is no longer which form of intelligence is greater. The relevant question becomes which form of intelligence possesses the highest binding capacity within a particular world.

A fish is not superior to water. A bird is not superior to air. Both possess a specific fit to the conditions of their respective environments.

Perhaps intelligence functions in a similar way. Perhaps there is no abstract superintelligence. Perhaps there exist only different forms of world-binding with different degrees of fit to different worlds.

From this perspective, the human being appears in a new light.

The human form of cognition is neither fully objective nor fully subjective. It moves between stability and openness. Humans forget. Humans fail. Humans lose orientation. Humans become tired. Humans are capable of believing contradictory things simultaneously. They are slow, error-prone, and frequently inconsistent.

From the perspective of classical information processing, many of these characteristics appear as deficits. From the perspective of world-binding, however, a different relationship may emerge. Perhaps these limitations are not errors at all. Perhaps they are components of a form of stabilization that functions only within certain boundaries.

Humans do not possess perfect memory. Precisely for this reason, they can abstract.

Humans do not possess complete rationality. Precisely for this reason, they can cope with uncertainty.

Humans do not possess complete control over their future. Precisely for this reason, their world remains open.

Many characteristics that appear as weaknesses within technical thinking may turn out to be conditions of world formation.

This applies especially to Eigenzeit.

Humans do not simply live in time.

They carry history.

Past experiences alter the conditions of future experiences. Loss does not disappear. Failure does not disappear. Decisions do not disappear. Every real world-binding leaves traces behind. Humans therefore do not move through a neutral world but through a space of irreversible consequences.

Here may lie an essential difference between human existence and many contemporary conceptions of artificial intelligence.

The question is not whether machines can process more information. Of course they can.

The question is whether unlimited information processing generates a stronger form of world-binding at all.

The preceding analysis suggests that this is by no means self-evident.

Humans may therefore remain relevant not because they are exceptionally intelligent. They may remain relevant because their form of intelligence emerged within a world whose conditions simultaneously produce and limit it.

Humans would then not be the measure of all things.

They would be the expression of a particular world.

This consideration has a remarkable consequence. The question of superintelligence shifts from magnitude to fit.

An artificial intelligence may outperform any human in many domains. It may integrate larger quantities of data, generate more complex models, and compute more extensive simulations.

It does not automatically follow, however, that it possesses greater world-binding capacity.

It may even move in the opposite direction.

Its capacity for simulation may continue to increase while its capacity for binding declines.

Its capacity for differentiation may grow faster than its ability to integrate those differences into a coherent world.

For precisely this reason, the future may not be defined by the emergence of an all-knowing superintelligence.

It may instead be defined by the emergence of increasingly complex forms of partial intelligence that open different regions of the world without ever converging into a single universal world.

From this perspective, human diversity also appears in a new light.

Different people, cultures, sciences, and forms of perception may not be incomplete approximations of the same perfect intelligence.

They may be expressions of different positions within a shared space of possible world-bindings.

Humans would then be significant not because they represent the summit of intelligence.

They would be significant because they may reveal a point of equilibrium at which difference and binding have achieved a particularly productive form for this world.

Whether this point actually represents an optimum cannot presently be determined.

The theory of the Sweet Spot does not claim that it does.

It merely claims that the question must be asked.

For once intelligence is understood as world-binding capacity, the idea of unlimited scalability loses its self-evidence.

The question of the future of intelligence becomes a different question.

Not:

How large can intelligence become?

But:

What forms of world-binding are possible within this world at all?

8. Conclusion

The starting point of this paper was a seemingly simple question.

Can intelligence be increased without limit?

The current debate on artificial intelligence, AGI, and superintelligence generally answers this question implicitly in the affirmative. Differences exist primarily with regard to timescales, technical requirements, and possible social consequences. The underlying assumption, however, remains largely the same. Intelligence appears as a quantity that can, in principle, be expanded indefinitely through more data, greater computational power, larger models, and more comprehensive world models.

Over the course of this investigation, it became apparent that this assumption rests upon a particular conception of intelligence.

It presupposes that intelligence can be understood primarily as information processing.

The perspective developed here follows a different path.

Its point of departure lies neither in information, nor in representation, nor in simulation. Its point of departure lies in world-binding. Intelligence was therefore understood not as a quantity of knowledge, but as the capacity to generate stable world-relations and particular forms of existence under conditions of irreversible non-closure.

Several consequences followed from this shift.

First, it became apparent that complexity and intelligence are not identical. More difference does not automatically generate more orientation. Every intelligent system depends upon Raster that render certain differences visible while simultaneously rendering others invisible. World does not emerge through the complete capture of reality but through selective stabilization.

Second, it became apparent that every Raster possesses a limited range of productive resolution. Below this range, sufficiently differentiated world-relations cannot emerge. Above this range, the capacity to integrate the resulting differences begins to disintegrate. From this observation emerged the hypothesis of a Sweet Spot of intelligence. Likewise emerged the insight that local Eigenzeiten cannot simply be added together and connected into a meta-model without destroying Eigenzeiten in the process. A limitation of intelligence therefore appears necessary in order to make world-bound intelligence possible at all. Otherwise, the capacity for problem-solving within those worlds and Eigenzeiten would itself be reduced below the threshold of optimal resolution—the Sweet Spot.

The Sweet Spot is therefore threatened precisely by attempts to scale or aggregate intelligence.

Third, the analysis of the Gap showed that this limit should not be understood as a technical problem. It does not arise from insufficient computational power, inadequate energy supply, or limited storage capacity. It arises from the structure of world-formation itself. Every successful stabilization generates new non-closure. Every new world generates new openness. The Gap does not disappear with increasing intelligence. It grows alongside it.

Fourth, this led to a new perspective on the debate surrounding artificial intelligence. The central question is not whether future systems will become more capable than humans. They will very likely do so in many domains. The real question is whether world-binding capacity itself is infinitely scalable. If it is not, then the idea of unlimited superintelligence encounters a structural limit that does not lie within the system itself but within the conditions of world-formation.

Finally, this consideration led to a re-evaluation of the human position. Humans no longer appear as the measure of all intelligence, nor merely as a preliminary stage of future systems. They appear instead as the expression of a specific form of world-binding that emerged under the conditions of this world. The possibility was discussed that human intelligence is significant not because it is maximal, but because it operates near a region in which difference and binding enter into a particularly productive relationship.

The present work does not claim to prove this hypothesis conclusively.

It pursues a more modest goal.

It attempts to show that the question of the limits of intelligence may have been posed incorrectly.

Intelligence no longer appears as an infinitely scalable resource but as a relation between difference and stabilization. Its limits arise not solely from the properties of a system. They arise from the structure of the world that the system attempts to bring forth.

The theory developed here therefore does not understand the limit of intelligence as a deficit. It understands it as a condition of world. A system acts not despite its limitations. It acts through them. The limit of intelligence does not mark the point of its failure. It marks the region within which world can emerge at all. The limitation of intelligence appears not as an obstacle to world-binding but as its precondition.

And it is precisely at this limit that many of today's conflict zones surrounding artificial intelligence already become visible. Societies will have to find a response to this problem before AI, through simulation alone, appears to displace world in ways fundamentally opposed to the preservation of life and existence.

Within capitalism, intelligence has increasingly become treated as a commodity. Yet intelligence is a consequence of world-binding. In the future, it may become increasingly important not to regard intelligence itself as the goal of progress, but rather the preservation of forms of existence in which intelligence remains bound to Eigenzeit and to world.

Glossary

Eigenzeit

Eigenzeit refers to the irreversible deformation of a system's space of possibilities through real world-binding. It does not describe chronological time but the historical transformation of a system through its own world-relations. Every act of world-binding changes the conditions of future world-binding and therefore generates a unique Eigenzeit.

World-Binding

World-binding describes the capacity of a system to irreversibly integrate difference into a coherent and actionable world. It refers not merely to perception, information processing, or environmental contact, but to the emergence of stable relations that shape future possibilities of action and interpretation.

Gap

The Gap denotes the structural difference between a bound world and the openness that remains beyond it. It is not treated as a defect of cognition or a lack of information, but as a necessary condition of world formation. Every stabilization generates a new Gap, and every world remains partially open.

Non-Closure

Non-closure refers to the impossibility of reducing a world, a relation, or a system completely to itself. No stabilization can become fully identical with its own conditions.

Non-closure therefore functions as the ontological basis of openness, transformation, and emergence.

Raster

A Raster is a finite structure of differentiation through which a system organizes and stabilizes differences. Raster determine which distinctions become visible and relevant while simultaneously rendering other distinctions invisible. World-binding always occurs through Raster and is therefore necessarily selective.

Recursion

Recursion describes the process through which a system encounters the consequences of its own differentiations and stabilizations. Unlike a purely computational recursion, Recursion is understood as a world-forming process in which previous acts of world-binding transform the conditions of future world-binding.

Morphogenetic Pressure

Morphogenetic Pressure refers to the tendency of differences, relations, and instabilities to generate new forms of organization. It describes the pressure toward form formation that emerges whenever systems attempt to stabilize world under conditions of non-closure.

Sweet Spot of Intelligence

The Sweet Spot of Intelligence denotes the limited range within which a system can maintain a productive balance between differentiation and world-binding. Below this range insufficient differentiation prevents stable world formation. Above it increasing complexity begins to undermine the system's capacity to integrate difference into a coherent world.

Capacity for Action

Capacity for Action refers to the ability of a system to remain operational within a world despite uncertainty, incompleteness, and non-closure. It emerges not from complete prediction but from the stabilization of world-binding under conditions of openness.

World Formation

World Formation describes the emergence of a coherent and actionable world through processes of selective stabilization. In this framework, worlds are not treated as pre-given realities that are merely represented, but as ongoing products of world-binding, differentiation, and non-closure.

References:

AGI, World Models, AI

- LeCun, Y. (2022). *A Path Towards Autonomous Machine Intelligence*. Open Review.
- LeCun, Y. (2024). Various talks and writings on World Models and JEPA.

- Russell, S. (2019). Human Compatible.
- Bostrom, N. (2014). Superintelligence.
- Mitchell, M. (2019). Artificial Intelligence.
- Marcus, G. & Davis, E. (2019). Rebooting AI.

Predictive Processing, Active Inference

- Friston, K. (2010). The free-energy principle: a unified brain theory?
- Clark, A. (2016). Surfing Uncertainty.
- Hohwy, J. (2013). The Predictive Mind.
- Seth, A. (2021). Being You.

Complexity, Self-Organization, and Limits

- Ashby, W. R. (1956). An Introduction to Cybernetics.
- Kauffman, S. A. (1993). The Origins of Order.
- Kauffman, S. A. (2000). Investigations.
- Prigogine, I. & Stengers, I. (1984). Order Out of Chaos.
- Holland, J. H. (1995). Hidden Order.

Embodiment, World-Relation, and Agency

- Dreyfus, H. L. (1972/1992). What Computers Still Can't Do.
- Gibson, J. J. (1979). The Ecological Approach to Visual Perception.
- Varela, F. J., Thompson, E. & Rosch, E. (1991). The Embodied Mind.
- Di Paolo, E., Buhrmann, T. & Barandiaran, X. (2017). Sensorimotor Life.
- De Jaegher, H. & Di Paolo, E. (2007). Participatory sense-making.
- Noë, A. (2004). Action in Perception.

Morphogenesis and Biological Intelligence

- Levin, M. (2022). Technological Approach to Mind Everywhere.
- Levin, M. (2024). Diverse Arbeiten zu Morphogenesis, Collective Intelligence und Basal Cognition.
- Turing, A. (1952). The Chemical Basis of Morphogenesis.
- Simondon, G. (1958/2020). Individuation in Light of Notions of Form and Information.

Neurodiversity and Nonlinear Perception

- Murray, D., Lesser, M. & Lawson, W. (2005). Attention, Monotropism and Autism.
- Markram, H. & Markram, K. (2010). The Intense World Theory.
- Mottron, L. et al. (2006). Veridical Mapping in Autism.
- Milton, D. (2012). Double Empathy Problem.

Systems Theory and Relational Ontology

- Bateson, G. (1972). Steps to an Ecology of Mind.
- Bateson, G. (1979). Mind and Nature.
- Luhmann, N. (1995). Social Systems.
- Barad, K. (2007). Meeting the Universe Halfway.

Schick, L., Eichenlaub, E., Drexel, F., Mayer, A., Chen, S., Roper, M., & Alim, K. (2026). Decision-making in light-trapped slime molds involves active mechanical processes. *PRX Life*, *4*(2), 023026.

Elmenhorst D, Foerges AL, Gordji-Nejad A, Elmenhorst E-M, Kroll T, Matusch A, et al. (2026) Sleep deprivation increases levels of the synaptic density marker SV2A in the human brain. PLoS Biol 24(6): e3003816. https://doi.org/10.1371/journal.pbio.3003816

Fruengel R and Oberlaender M (2025) Sparse connectivity enables efficient information processing in cortex-like artificial neural networks. Front. Neural Circuits 19:1528309. doi: 10.3389/fncir.2025.1528309

Speed, T. (2026). Difference, Eigenzeit and World-Binding: Towards a General Theory of Emergence (Studies in World-Formation, Vol. 18) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20607069

Speed, T. (2026). Simulation, Eigenzeit and Civilizational Crisis (Studies in World-Formation, Vol. 17) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20177396

Speed, T. (2025). The Physics of the Poor - A Neurodivergent Meta-Theory of Consciousness (AAM DNB Version English). Zenodo. https://doi.org/10.5281/zenodo.19051837

Speed, T. (2026). Work as World-Binding – Relational Agency Beyond Function (Studies in World-Formation, Vol. 11) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18999647

Speed, T. (2026). Morphology Without Memory – Eigenzeit, Folding and the Limits of Simulation (Studies in World-Formation, Vol. 5) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18996583

Speed, T. (2026). Time, Recurrence and World-Binding – Eigenzeit in Physics and Consciousness (Studies in World-Formation, Vol. 3) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18983591

Speed, T. (2026). From Gap to World - Pre-Ontology, Indimergence and the End of Representational Physics (Studies in World-Formation, Vol. 1) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18983094

Speed, T. (2026). World-Binding in an Age of Stabilization: Introduction to the Series Studies in World-Formation (Studies in World-Formation, Vol. 0) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18981714

Speed, T. (2026). Eigenzeit. On the Limits of Block Time and the Ontological Costs of Decision, Responsibility, and Simulation - Implications for Science, Politics, and Societal Reality Formation (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18481704

Speed, T. (2026). Correct, but Worldless - Why Theoretical Correctness Does Not Guarantee Ontological Grounding (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18134901

Speed, T. (2025). Artificial Systems Without World - Why World-Formation and Technical Usability Are Structurally Incompatible - Ontological Limits of Artificial Intelligence in Light of ANP, MNO, and Observer Structure (2 English). Zenodo. https://doi.org/10.5281/zenodo.18006914

The Limits of Predictive Intelligence: World Models, World-Binding, and Responsibility

DOI: https://doi.org/10.5281/zenodo.20920844

Abstract

Contemporary approaches to artificial intelligence increasingly assume that powerful World Models could form the foundation of future Artificial General Intelligence (AGI). The underlying assumption is that a system's ability to model relationships, predict future states, and generate increasingly comprehensive representations of its environment simultaneously constitutes an approximation to understanding the world. The present paper fundamentally challenges this assumption and argues that world modeling and world-binding are ontologically different processes.

Drawing on the concepts of Weltbindung, Eigenzeit, and non-closure, the paper argues that the world must not be confused with its representation. It follows that the central limits of World Models do not primarily lie at the level of modeling, but at the level of decision and responsibility. A World Model can describe relationships, recognize patterns, and simulate consequences. However, it cannot generate the conditions under which the world becomes binding for a system in the first place. Weltbindung does not arise through the organization of information, but through irreversible differentiation, real consequences, and embeddedness in an irreversible history that cannot be completely calculated.

The paper develops the thesis that World Models implicitly rely on a globalization of relevance. They attempt to translate local, historically developed, and embodied forms of world-relation into universal model structures. In doing so, however, they lose access to the conditions under which relevance arises in the first place. Relevance does not appear as a property of information, but as the consequence of concrete Weltbindungen within an Eigenzeit.

On this basis, it is argued that the central difficulty of future AGI systems may not lie in insufficient computational power, missing data, or incomplete models. Rather, the actual limit may consist in the fact that Eigenzeit, irreversibility, and Weltbindung cannot be transformed into transferable model structures without loss. The description of a bond is not identical with the bond itself. The simulation of a consequence is not identical with the consequence. The representation of a history is not identical with its emergence.

Finally, the paper argues that responsibility does not emerge from maximal predictive capability, but from dealing with persistent uncertainty. If the world is grounded in non-closure, then not-knowing is not a deficiency of intelligence but a condition of responsible action. From this perspective, the limits of World Models do not appear as technical deficits, but as the expression of a fundamental difference between model and world that extends beyond previous critical map–reality paradigms.

Keywords: world-binding, world models, predictive intelligence, artificial general intelligence, AGI, Eigenzeit, irreversibility, non-closability, gap theory, world formation, morphogenesis, relevance, agency, responsibility, uncertainty, embodied cognition, enactivism, active inference, predictive processing, autonomy, complexity, distributed cognition, local knowledge, participatory sense-making, basal cognition, collective intelligence, decision-making, world-model architectures, artificial intelligence, philosophy of AI, epistemology, ontology, systems theory, cybernetics, Gregory Bateson, Hubert Dreyfus, Hannah Arendt, Michael Levin, James C. Scott, Gilbert Simondon, Yann LeCun, JEPA, autonomous machine intelligence, human-AI interaction, limits of prediction, limits of representation, emergence, individuation, ecological cognition, open systems, intelligence studies, neurodivergent epistemology, world-binding theory.

1. Introduction

The idea that intelligence is based on the formation of an internal model of the world is one of the most influential assumptions in contemporary cognitive science and AI research. From early cognitive architectures through Predictive Processing to current AGI concepts, the same fundamental idea repeatedly appears. An intelligent system is understood as a system capable of internally representing the structure of its environment, predicting future states, and planning its behavior on that basis.

In recent years, this idea has gained particular significance through the work of Yann LeCun. While large language models are often criticized for merely reproducing statistical patterns, LeCun argues that future artificial intelligence must be based on so-called World Models. An intelligent system should not merely generate language, but learn how the world works. It should recognize causal relationships, anticipate future events, and plan actions on the basis of an internal model of reality.

The appeal of this position is obvious. A system that understands the world appears more intelligent than a system that merely reacts to correlations. The ability to predict seems to be a natural prerequisite for planning. Planning, in turn, appears to be a prerequisite for complex action. From this perspective, the path toward Artificial General Intelligence appears as the continuous improvement of the ability to generate ever more comprehensive and increasingly precise models of the world.

The present paper challenges this assumption not from a technical, but from an ontological perspective.

It does not deny that World Models can be powerful tools. Nor does it deny that prediction, planning, and model construction are important components of intelligent systems. The central question is rather whether world modeling and Weltbindung are actually identical. More precisely: whether responsible and therefore safe action can emerge from World Models at all.

For precisely this equation remains implicit throughout many current discussions.

The better a model describes the world, the closer it appears to come to the world itself. The more relationships it integrates, the more comprehensive the resulting intelligence appears. Yet this conclusion already presupposes that the world is something that can in principle be modeled, and that expanding a model simultaneously constitutes an expansion of the world itself. This is not merely a "last mile problem," but an ontological one.

The present paper rejects the modelability of the world itself, beyond the modelability of objects. Its central thesis is that the world does not emerge from prediction. Prediction emerges from the world. The world is not the consequence of model construction. Model construction is a consequence of Weltbindung.

Before a system can calculate future states, it must already have determined which differences are relevant, which relationships possess stability, and which forms of action can appear possible within a reality. Before every prediction, there is therefore already a binding to the world.

This shift may initially appear minor. In reality, however, it changes the entire question.

The focus is no longer the quality of a model. The focus becomes the conditions under which a world can become binding in the first place.

The theory of Weltbindung assumes that real worlds do not primarily emerge through the organization of information. They emerge through irreversible differentiation. Every decision changes the conditions of future decisions. Every experience changes the structure of later experiences. Every stabilization excludes alternative developmental paths. Reality leaves traces.

These traces are referred to here as Eigenzeit. Eigenzeit describes the ongoing transformation of a system through real world relations. Irreversibility describes the fact that such relations change future possibilities and cannot be reversed without loss. Weltbindung describes the ability of a system to integrate such differences into a coherent and actionable world.

From this perspective, the decisive limit of artificial intelligence may not appear as a problem of insufficient computational power or incomplete data. The actual limit may instead lie where models begin not only to be confused with the world, but also to appear as a sufficient basis for decision-making in open worlds, even though they provide information without

being able to read or interpret its concrete meaning and relevance within an Eigenzeit arising from Weltbindung.

A model can be copied. It can be transferred. It can be synchronized. It can be updated.

A world cannot.

For the world is always a lived distortion of whatever it may mean as information. A world possesses intrinsic properties that not only cause external information about it to become outdated rapidly, but through recursion and feedback loops the world continuously produces its own observer from within itself. World Models, by contrast, presuppose an external, neutral observer who learns about the world without being part of it. Between an external and an internal observer there exists a Gap in knowledge about the respective world.

World Models cannot overcome this Gap. This has nothing to do with missing information, but with the absence of subjective experience. In this respect, World Models share the same limitations as state systems attempting to organize, control, or govern a collective.

Within a flock of birds, for example, it is sufficient to perceive the movements of only a few neighboring birds in order to act meaningfully and to anticipate the flock's next movement. Here a certain degree of external predictability becomes visible that could also be simulated. In human experience, however, the difference becomes much clearer. Anyone who wishes to advise a person who has lost a child cannot rely on data, models, or probabilities alone. To reach the same level of meaning, one would have to be bound to a similar experience oneself. And even then, the correspondence would remain limited, because every experience emerges within its own history and its own Eigenzeit. A distance therefore remains between knowledge about an experience and the experience itself—a distance that can never be fully closed. The external observer does not possess the knowledge of the world that belongs to the observer brought forth by the world itself.

Yet this very distance becomes the actual basis of decision-making as soon as one leaves purely simulated and self-contained environments. A state system attempts to compensate for this problem through regular elections. A World Model, by contrast, provides no correction through subjective individuals that could actually be transferred into the system. If relevance is determined in advance, decisions may appear simpler, but they become detached from the Eigenzeit of the situation.

This is precisely where the difficulty of many contemporary World Model approaches lies. They generate descriptions of the world. They do not necessarily generate Weltbindungen. They do not represent Eigenzeit relations, but primarily externalized forms of measuring reality. Yet the description of Weltbindung is not identical with Weltbindung itself. The simulation of a consequence is not identical with the consequence. The representation of a history is not identical with its emergence.

The critique developed here can also be understood as an application of the theory developed in the paper *The Sweet Spot of Intelligence: World-Binding, Complexity, and the Limits of AGI* (Speed, 2026) to contemporary World Model approaches. For the decisive question is not

whether a World Model can integrate more information than a human being. The decisive question is whether it reproduces the same mistake that complex institutions have repeatedly made for centuries: placing information above the world.

Bureaucracies, administrations, and centralized planning systems rarely fail because of a lack of data. They fail because they increasingly replace the world with their own model of it. The more successful a model becomes, the greater the danger that the difference between model and world becomes invisible.

It is the nature of a simulation to create the impression that whatever cannot exist within it is also not missed. It is profoundly self-referential. Deviation no longer appears as disturbance; often it no longer appears at all, because the simplified structure cannot represent it. It simply ceases to exist.

The following paper therefore investigates whether precisely this danger lies at the center of contemporary World Model approaches.

2. The Promise of World Models

To understand the scope of contemporary World Model approaches, it is first necessary to understand the problem they are trying to solve.

Despite its impressive capabilities, contemporary AI has obvious limitations. Large language models can generate texts, write summaries, develop programs, and conduct complex dialogues. At the same time, however, it is repeatedly pointed out that these systems often possess no stable understanding of the world. They produce plausible answers without necessarily understanding what those answers refer to. One can ask an AI to explain how a particular wine tastes. The explanation may sound as if the AI had actually tasted the wine itself.

It is precisely at this point that Yann LeCun's critique begins.

In his view, the central deficiency of current systems does not lie in insufficient computational power or inadequate amounts of data. Rather, the problem is that these systems possess no adequate models of the world. They learn statistical relationships between symbols without grasping the underlying structures of reality. A future artificial intelligence must therefore learn how the world behaves. It must recognize objects, abstract relationships, understand causalities, and anticipate future states.

The goal is therefore not to store as many facts as possible.

The goal is to develop an internal model that allows future situations to be anticipated mentally.

In this respect, LeCun's concept resembles both the ideas of classical cognitive science and more recent variants of Predictive Processing. Intelligent behavior appears as the ability to

simulate future states on the basis of internal representations. Action becomes a form of controlled prediction. Learning becomes the improvement of predictive accuracy. Progress consists in enlarging and refining the model.

From this perspective, the development of artificial intelligence appears as a largely continuous process. The more relevant differences that can be integrated, the better the model becomes. The better the model becomes, the more successful its predictions become. The more successful the predictions, the more intelligent the system appears.

This logic possesses considerable intuitive plausibility.

Whoever can correctly predict the trajectory of a ball will catch it more easily. Whoever can anticipate the reaction of a conversation partner will communicate more successfully. It is precisely for this reason that World Models initially appear to be a natural extension of human intelligence.

Human beings also develop expectations. They recognize patterns. They learn regularities. They anticipate future events. The idea that these same principles merely need to be applied to larger amounts of data, more powerful architectures, and increasingly comprehensive models therefore initially appears plausible.

Yet it is precisely here that a decisive question emerges.

What exactly is being predicted?

Or more precisely:

What must already exist before prediction becomes possible at all? And what exactly is prediction referring to?

For we already know today that AI is not trained for all possible capabilities in general, but along the wishes of investors, predominantly those of industry. Relevance therefore always plays a role in how a World Model is weighted, because it is an illusion to assume that it refers to the "whole world" or to the totality of "Being."

Every prediction presupposes an already stabilized reality within which future states can appear as variations of existing relationships. A system can anticipate the movement of a vehicle only because it has already been decided what counts as a vehicle. It can predict social reactions because it has already been decided what counts as a relevant action. It can model future states because a world already exists within which those states possess meaning.

The decisive question may therefore not be how a system can generate better World Models. The decisive question is what kind of world makes models meaningful in the first place. It is precisely here that the difference between World Models and Weltbindung begins. One is an externalized question directed toward globalization and scalability. The other arises from the concern that individual structures of relevance might be destroyed—those very structures from which regional, personal, and cultural realities, worlds, cultures, and societies first emerge and subsequently become bound.

A World Model cannot replace an observer who has been brought forth by the world itself. It cannot adequately simulate the distortion that immediately coincides with the meaning and relevance of that particular world in order to achieve a genuine correspondence with it. At best, it repeats on a technically more advanced level what bureaucracies and systems of domination have done for centuries: unify external order, centralize it, and subsequently globalize it, thereby producing the same fractures that lead to the pervasive alienation generated by such systems. And whenever people are forced to act within such an externally regulated world, cognitive dissonance, disorientation, the erosion of diversity, and the destruction of local communities increase.

The fundamental concept of World Models is therefore not new. It is, rather, outdated—a colonial fantasy that, in the age of artificial intelligence, seeks to adapt the environment to industry while claiming to do exactly the opposite.

The future of humanity is therefore likely to depend far more on understanding Eigenzeit—and on protecting it—than on artificial systems that threaten to take from us not only work, but the world itself.

Work is neither mere functioning, nor is usefulness solely a capitalist question. World Models are industrial products that seek to offer added value. And, as with every product, one must ask whether that "benefit" ultimately creates new problems that diminish or even negate the benefit itself.

3. The Hidden Axiom of World Models

The appeal of World Models rests on an assumption that is rarely stated explicitly. This assumption is not simply that models are useful. Rather, it is that expanding a model simultaneously constitutes an expansion of the world. Possibility thus becomes anonymizable, and the world becomes a functional space, similar to the dreams of early industrialization that portrayed the machine-human in *Metropolis*. The promise is that added value will emerge because one believes that more world is being created, more coherence of meaning, greater efficiency in dealing with it. Above all, it is meant to enable AI to enter the "real world." But this is precisely where the misconception lies.

The more relationships that can be integrated, the more comprehensive the reality accessible to the system appears to become. The more people—or customers—can supposedly be helped. Once again, more information means more world. More prediction means more understanding. Larger models appear as an approximation to a more comprehensive reality, as if they expanded humanity's space of possibilities.

Behind this idea, however, lies another assumption that is rarely made visible. World Models are not merely a project of modeling. They are simultaneously a project of the globalization of relevance. They assume that ever larger parts of the world can be integrated into a common space of relevance. Differences are to become comparable. Perspectives are to

become translatable. Local situations are to be transformed into general structures. What is relevant for one person, one community, or one ecosystem is increasingly expected to become part of a universal model of relevance.

It is precisely here, however, that a problem emerges. Relevance is not a property of information. Relevance arises from Weltbindung. It emerges from a concrete history, from a particular Eigenzeit, and from the consequences to which a system is exposed. What is vital for one organism may be meaningless for another. What represents an existential decision for one person may be statistical noise for an institution. Relevance is therefore not global. It is local, embodied, and historical. It possesses an intrinsic observer.

This is not because such locality is desirable in itself, but because without this recursive feedback with itself—through which Eigenzeit continuously subjects the world to new shifts and distortions—the world could not stabilize as this particular world. It would dissolve into arbitrariness.

This consideration bears a certain resemblance to Gregory Bateson's famous definition of information as "a difference that makes a difference." Bateson showed that differences do not exist independently of the systems for which they become effective. The theory of Weltbindung, however, takes this idea one step further. Relevance does not arise merely because a difference becomes effective. Relevance arises because a difference becomes bound within an Eigenzeit and thereby generates consequences for future world relations. Not every effective difference becomes part of a world. A world emerges only where difference generates history.

The more a model attempts to globalize relevance, the more it loses the conditions from which relevance originally emerged. It gains overview while losing commitment. It gains reach while losing proximity. It gains comparability while losing history. From the perspective of Weltbindung, the progressive scaling of World Models therefore does not simply appear as an expansion of the world. It simultaneously appears as a progressive abstraction from the conditions under which the world possesses meaning at all.

Meaning and relevance cannot be globalized as a relation—and they should not be. What, then, is the purpose of a World Model?

The critique formulated here bears parallels to James C. Scott's analysis of modern statehood. Scott showed that large administrative systems must first simplify reality in order to make it legible and administrable. Yet precisely this legibility generates new forms of blindness toward local practices and lived worlds. The theory of Weltbindung extends this observation. The problem does not lie merely in the loss of local knowledge. It lies in the loss of those Eigenzeiten from which relevance, meaning, and responsibility arise in the first place. The more the world is translated into a universal model, the more the conditions of its emergence disappear.

The fundamental problem therefore does not consist in World Models containing too little of the world. The problem may instead be that they increasingly replace the world with a global order of relevance that has forgotten its own local origins.

What it means when relevance becomes globalized can already be observed in the negative aspects of global capitalism and in the thoroughly regulated world of work. Work-life balance emerged as a safeguard against the complete loss of private relevance, which would otherwise ultimately lead to the dissolution of private life itself.

One may argue that industrialization took place only inside factories, where the machines stood. But that would be too narrow a view. It shaped the worker and patterns of consumption—ultimately the whole of society. The same will happen with World Models.

One may argue that a World Model is intended merely to solve the last-mile problem of robotics—that is, the point of contact between AI and the world. But it will also change how we relate to AI itself. This has consequences not only for the interfaces between society and AI, but also for many decision-making processes and for the assumptions underlying decisions based on World Models. Increasing efficiency is not neutral. It is already preceded by the decision that relevance can be globalized. Just as competition allows only certain forms of talent to participate in the race, while excluding others in advance, it is decided beforehand what counts as relevant. No one will build a World Model that values pauses for poetry. The immediate reaction is often that this would be absurd, because a World Model is intended for practical purposes, such as self-driving cars. But what priority does this assign to an object-centered, capitalist worldview over reality itself? Did the *Titanic* not also sink because of such priorities?

The more relationships that can be integrated, the more comprehensive the reality accessible to the system appears to become—as if humanity's space of possibilities were expanding. Yet the opposite may be true. Whoever replaces irreversible binding with the globalized scaling of meaning destroys the very foundation of the space of possibilities. It is not expanded.

Blind spots are created. They are not eliminated.

Where do these blind spots arise? They arise wherever the world is shaped by decisions made by external observers rather than intrinsic ones—wherever reality exists and it matters that decisions are grounded in reality. In the case of a self-driving car, this may work, or it may become a profound problem. At the latest, once human beings are involved, it becomes highly problematic. Not because a robot might walk down a street without colliding with every second tree, but because we increasingly begin to view more and more processes through the perspective of World Models.

Whoever delegates decisions to a sensor limits reality to the measurement range of that sensor. Data protection, for example—that is, our understanding of individual privacy—is today often defined far more from the perspective of computers than from the perspective of human systems. Even in the analogue world, data are now protected, yet no one protects us from increasingly being regarded only as data.

3.1 World-Binding and Irreversible Difference

Human freedom is not protected by an anonymous space of possibilities, but by respect for history, for limitation, and for decision. Most oppressed and marginalized groups do not seek just any space of possibilities. They seek the protection of their own Eigenzeit. A World Model does the opposite. It moves from globalization, scaling, and generalization toward detail, whereas human existence experiences the whole through its own limitation and its own distortion. This is the foundation of subjectivity, but also of the diversity of the ecosystem.

In the Aristotelian sense, the art of the whole comes into conflict with the drive of a World Model to represent the world as such.

Weltbindung does not begin with the organization of information. It begins with an irreversible binding to irreversible difference. The world is never the world itself. It is always the local possibility of itself.

The difference is decisive.

A model can describe a situation. A world must be lived. This means that it is an irretrievable, locally unique moment that cannot be reduced to itself in its own essence, but at best represented as a surface of simulation at considerable loss. A model can calculate that an action leads to certain consequences. A world means that these consequences become part of one's own reality. A model can represent the possibility of a loss. A world means that something can actually be lost. It is precisely here that an asymmetry emerges which remains invisible in many World Model approaches. The structure of a model is fundamentally reversible.

Responsibility therefore cannot be grasped within it.

What is missing is the ability to contextualize within an Eigenzeit, or within Eigenzeit relations. This would require subjective experience rather than an objectifiable surface. This is the paradox that remains largely misunderstood in many World Model discourses.

Responsibility requires subjectivity. For subjectivity is the difference of the individual in relation to external order, from which the capacity for decision can emerge in the first place. But subjectivity does not mean reduced information. It means distorted existence within a world. It means existing within one possibility of the world while simultaneously standing outside the world itself—existentially, yet never fully closable.

Human beings carry responsibility within ambiguity.

Memory and history are not archives. They are not neutral information. With every passing decade, these data become distorted and displaced in relation to the newly emerging world. It represents an enormous loss of information if the same archive is explained to me by an archivist from the nineteenth century rather than by one today. At first glance, the archivist from the nineteenth century appears closer to the original and therefore seems to know the authentic World Model. Yet if I listen only to that voice instead of the contemporary one, the

world is paradoxically erased rather than preserved. One receives accurate data, but not accurate relations.

Every decision excludes possibilities. Every experience changes the structure of later experiences. Every stabilization produces the loss of alternative developmental paths. This irreversible transformation of the space of possibilities was described in earlier work as Eigenzeit.

Advocates of World Model approaches could argue here that a World Model has never claimed to possess Eigenzeit. Its purpose is not to live history, but to model it. Yet the criticism is not that World Models lack Eigenzeit. The criticism is that, for precisely this reason, they cannot provide a sufficient basis for decisions in open worlds. What is being criticized is their claim to sovereignty.

A subjective access to reality is not an error, but a prerequisite of reality, in contrast to dead simulation. Without it, we would be determined, programmed objects with visual projections of the world. We would be an AI.

Apart from our bodies, we human beings do not exist on the level of things, but within that distortion which arises from non-closure. This means that nothing can ever fully collapse back into itself. Every form of identity already contains a difference in relation to itself. Words are not what they describe. Observations are not what is observed. Memories are not what is remembered. Every act of positing changes the relational space within which it occurs and thereby simultaneously shifts the conditions for further acts of positing.

We are therefore bound within a field of tension in which we can become neither a fully calculable object nor an orientationless nothing. It is precisely this tension that escapes every World Model. And this Gap is not an error but a prerequisite of reality, as the author has shown in detail in earlier work.

World Models treat the world primarily as something that must be recognized. The theory of Weltbindung, by contrast, suggests that the world is first and foremost something to which a system must become bound in order not only to recognize consequences but also to have them—both presupposing one another.

At first glance this shift may appear minor. In reality, however, it changes the entire question. If Weltbindung precedes model construction, then intelligence does not emerge through the construction of ever more comprehensive World Models. Rather, World Models emerge within an already existing Weltbindung.

The question is therefore no longer:

How does a system generate a model of the world?

The question becomes:

How does a system become part of a world in the first place?

This is precisely what remains inaccessible to a World Model because it lacks an intrinsic observer. Intrinsic does not mean that a robot moves through the world, interacts, and learns. It means that the world itself has brought forth the observer from within itself. And it has done so as an imperfect distortion that overlaps sufficiently with the distortion of that particular world within non-closure to sustain a shared order. This requires a shared Eigenzeit, or an Eigenzeit relation.

World Models are indeed created by human beings, in a particular year and at a particular place. But the category within which they arise—that of information—does not preserve the Eigenzeit of those who created them. The assumption that the creator, the engineer, automatically binds everything constructed to the world simply because it has been modeled from within an existing system holds only if the *how*—the lived experience—again gives rise to lived experience. Yet this is precisely what is usually prevented by the filters of technological progress, because the entire purpose of technological progress has always been to bridge the limits of Eigenzeit.

The hunter who must run after a deer has a fundamentally different Eigenzeit relation to the animal than someone using a rifle. The rifle creates a level of distance from the Eigenzeit of what it means to catch or kill an animal with one's own hands.

It may appear that the relation to Eigenzeit can be neglected for a robot working inside a factory—that is, within a controlled environment. But within an ecosystem such as human society, this could become fatal for human beings in the long run. It would resemble an all-powerful bureaucracy that fails to understand the lived reality of people's lives and therefore makes correspondingly violent decisions.

An AI cannot become intrinsic because it has an externally defined function. It has no world. It has a function. The difference lies in the fact that it exists only on the level of information. Even experience is always captured merely as information. Information, however, is always associated with closure, and closure is precisely what prevents the world.

It is impossible to think information without closure. Information can define relations, but it cannot contain relation.

Morphogenesis therefore does not function through information. It is the consequence of a field of tension with an implied Gap. Information is simply not world-capable.

Information can be managed, but it cannot be lived.

In comparison with a bureaucracy, a World Model is initially superior only in its access to data, not in its capacity to experience difference. For, as discussed earlier, difference is a question of relevance, and relevance is a question of the affordances of a form of existence—therefore of the experience of Eigenzeit. Neither a World Model nor a bureaucracy has access to this. If they did, they would dissolve themselves even with enormous computational power, because they would no longer be able to stabilize their own relevance.

Information cannot be scaled indefinitely while assuming that relevance remains intact. One cannot be a useful tool and at the same time possess Eigenzeit.

3.2 Responsibility and the Limits of Prediction

Behind this problem lies an even more fundamental question. Modern AI systems are frequently developed with the promise of reducing uncertainty. More data are expected to enable better predictions. Better predictions are expected to lead to better decisions. Implicitly, this gives rise to the idea that responsibility can be replaced by knowledge.

Yet this assumption is likely to be false.

If the world is grounded in non-closure, if consequences can never be fully calculated, and if Eigenzeit always remains local and irreversible, then responsibility does not arise through the elimination of uncertainty. Responsibility arises through dealing with persistent uncertainty. It presupposes that one must act even though the future is never fully known.

One must not fall into the mistake of excusing this by claiming that nothing can ever be certain. In matters of responsibility and the safety of decisions, the situation is fundamentally different. Precisely because we can fail, we have the responsibility to maintain safety through an attitude of permanent attentiveness. A machine, however, can neither establish nor maintain this openness. A sensor is not open. It is controlling. It repeatedly retrieves a particular measurement of difference. A machine can act only when it possesses the information telling it how to act, and this information is always treated either as absolute or as probabilistic, and therefore as closed. The machine decides because it closes. Not because it remains open.

It seeks to prevent vulnerability rather than preserve it in order not to be wounded again. In human beings, however, this very behavior leads, not without reason, to neuroses and phobias that impair future recognition of reality.

Human beings, like all living beings, decide within the space between ignorance and absolute certainty while carrying a subjective perspective bound to a world. This is a question of the equilibrium of relevance, and precisely this equilibrium cannot exist without Eigenzeit and certainly cannot be calculated from outside it.

Responsibility is therefore not the consequence of maximal predictive capability. It begins where prediction reaches its limits. Whoever possesses complete certainty no longer bears responsibility in the proper sense. One merely performs a calculation. Responsibility arises where decisions have real consequences even though their outcome cannot be fully controlled.

Safety results from the capacity for relationship within a commonly lived world, and not from external control.

The decisive insight is to understand that responsibility does not merely serve the reduction of risk. It is one of the primary foundations of decision itself. By preserving responsibility, we preserve Weltbindung and, at the same time, freedom of action within it.

In surprising proximity to this idea, Hannah Arendt also describes human action as belonging to a domain whose consequences can never be fully predicted. Precisely because actions intervene in open historical processes, their consequences remain irreducible. The theory of Weltbindung radicalizes this idea. Responsibility does not arise despite this uncertainty. It arises through it. From this perspective, not-knowing appears not as a deficiency of responsible action, but as its prerequisite.

There is therefore a direct relationship between the capacity for responsibility, lived Weltbindung, and relation to reality. Without responsibility, alienation from reality takes place. This is precisely the opposite of what a World Model defines as useful. In this respect, a World Model becomes a contradiction in itself. It loses its relation to reality with every attempt to grasp reality through information.

A related problem can also be found in Hans Jonas's analysis of technological responsibility. Jonas argued that the increasing reach of technological systems requires a new form of responsibility because the consequences of human action become progressively less predictable. The present argument fundamentally agrees with this diagnosis but shifts the focus once again. The difficulty does not merely lie in the fact that knowledge remains limited. The difficulty lies in the fact that the world itself is grounded in non-closure. Responsibility therefore does not arise as a reaction to a temporary lack of information. It arises from the structural openness of the future. Precisely because consequences can never become fully calculable, responsibility remains necessary. A completely calculable world would not expand responsibility. It would abolish it. Where nothing remains open, nothing remains to be responsible for.

Above all, responsibility preserves a space for shaping the future, especially for those who come after us.

This is perhaps the deepest difference between Weltbindung and World Modeling. A World Model attempts to reduce uncertainty. Weltbindung means acting within a reality whose uncertainty never completely disappears. From this perspective, not-knowing appears not as a deficiency of intelligence but as a condition of responsible existence.

A bureaucracy that fully captured the Eigenzeit of every human being could no longer function as a bureaucracy. From the perspective of bureaucracy—and likewise from the perspective of the purpose of a World Model—such an undertaking would be meaningless. If the world is grounded in non-closure, why should decisions be based on archival knowledge? By definition, such knowledge would not be binding for the world. As a consequence, it would move toward its own disintegration.

AI would therefore always carry an element of arbitrariness within itself. World Models carry this arbitrariness. It results from the absence of Weltbindung, from which a lack of relation to reality follows.

We are not speaking here about opinion, democracy, or convincing arguments. We are speaking about the difference between **our own decisions** and **externalized or objectified decision-making**. An objectified basis for decision is not neutral.

Objectively speaking, there are many reasons one could justify erasing humanity at the push of a button without even beginning to recognize the consequences.

Many minorities complain that decisions are made about them. Indirectly, what they are complaining about is that their Eigenzeit is being ignored.

The following figure once again illustrates the difference between a World Model and a world. It does not yet answer the question of how we should deal with this difference.

WHY WORLD MODELS ARE NOT WORLDS

The limits of predictive intelligence

4. THE BINDING GAP — WHY PREDICTION IS NOT THE SAME AS WORLD-BINDING

WORLD-BINDING
Actualization in reality

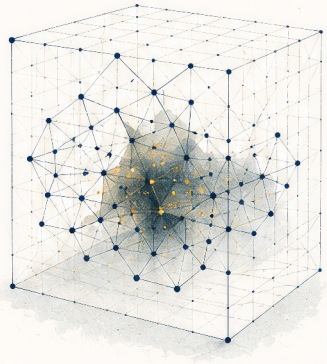
World Models simulate possibilities.
World-binding actualizes reality.
Three dimensions cannot be captured by any model and therefore cannot be transferred.

EIGENZEIT
Irreversible becoming.
The trace of what has happened.
The ongoing transformation of the space of possibilities.

IRREVERSIBILITY
Real consequences cannot be undone. They change what can happen next.

WORLD-BINDING
Anchoring in a concrete reality with consequences, resistance and meaning.

WORLD MODEL
Simulation in the model



IN THE WORLD		IN THE MODEL
History happens. Each moment leaves a trace that shapes the future.	EIGENZEIT (OWN TIME)	Time is a sequence of states. No memory beyond what is stored.
Actions have consequences. They cannot be undone without remainder.	IRREVERSIBILITY	Everything can be reset. No true irreversibility, only state transitions.
Meaning arises from contact with reality. Through resistance, feedback and embodied engagement.	WORLD-BINDING	Meaning is assigned from within the model. No reality outside the representation.

WHAT WORLD-BINDING MAKES POSSIBLE

- **Responsibility** — Real consequences anchor responsibility.
- **Stability** — The world holds, because it pushes back.
- **Learning** — From the real, not just from data.
- **Meaning** — Arises from participation in a shared reality.

THE GAP

Prediction without binding remains hollow.

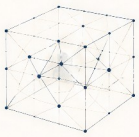
Simulation without reality remains transferable.

WHAT REMAINS WITHOUT WORLD-BINDING

- **No Responsibility** — No real consequences, no real accountability.
- **Instability** — Everything can be changed arbitrarily.
- **Pseudo-Learning** — Only pattern fitting and compression.
- **Empty Meaning** — Symbols without grounding.

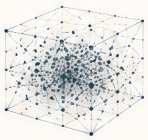
IMPLICATIONS FOR AGI

MORE PREDICTION



More data, more compute, better models.
But still: only simulation.

BETTER SIMULATION



More detailed, more accurate, more impressive.
But still: no binding.

THE ILLUSION OF UNDERSTANDING

The model behaves as if it understands. But it does not live in the world.

THE TRUE LIMIT

Without Eigenzeit, Irreversibility and World-binding, no system can become a participant in reality.

THE TASK AHEAD

AGI requires more than models.
It requires binding.
It requires a world.

PRINCIPLE

A model can represent a world.
Only world-binding can create one.

- Eigenzeit creates history.
- Irreversibility creates consequence.
- World-binding creates reality.

Intelligence without world-binding remains a spectator.

THE FUTURE OF AGI DOES NOT DEPEND ON BETTER MODELS, BUT ON WHETHER AI CAN BECOME BOUND TO A WORLD.

To understand how one should respond to the limits of World Models, it is helpful to consider the principles that follow from the argument developed here and to ask whether World Models are meaningful at all—and if so, where.

1. World Models can provide a reliable basis for decision only where they refer to self-contained simulations. They cannot realize this property of safety in direct relation to the world itself. Statistical calculations may reduce the probability of conflicts, but these calculations remain models as well. Safety therefore always remains a political decision, even when based on a World Model. One must know the price that is being paid. There will always be a Glitch that leads to misinterpretations. It follows that an AI can neither derive nor claim responsibility from a World Model. A World Model can therefore never replace human responsibility, and we must not allow it to appear as though it does, nor use it to produce a diffusion of responsibility.

2. World Models must not be applied wherever Eigenzeit requires protection. This excludes a large proportion of their possible fields of application and ultimately reduces the concept to an absurdity. For the purpose of World Models is to enable AI to make increasingly autonomous decisions in the real world and gradually take over more decisions. Yet the consequences for domains of Eigenzeit can never, in principle, be grasped by AI, because it lacks the lived experience of them, regardless of how sophisticated its sensors become. AI must therefore neither assume responsibility nor act freely. This makes planning difficult on entirely different levels than those originally envisioned by World Model approaches.

3. World Models have their legitimate fields of application in systems that do not require a world, do not carry responsibility, and do not affect Eigenzeiten. This is both their strength and their limitation.

We can therefore see how radically this cuts back the ambitions of World Models, and one must ask how much should ultimately be invested in them if they cannot deliver what is so often claimed today. They may improve sensor systems. They may improve learning or enable better simulations of three-dimensional space. But everything beyond that remains, for the time being, an open question.

4. Why Learning Is Not World-Binding and Why It Does Not Solve the Problem

At this point, an obvious objection arises.

Even if one accepts that a World Model is not identical to a world, it does not necessarily follow that artificial systems are incapable of developing Weltbindungen. Modern AI systems learn. They change through experience. They adapt their internal structures to new situations. They develop new strategies. They optimize their behavior. Why should this not already be understood as a form of Weltbindung?

This question is decisive. For the answer depends on what is meant by learning.

In the ordinary sense, learning refers to the modification of a system on the basis of previous states. A neural network adjusts its weights. A reinforcement-learning agent changes its strategies. A robotic system updates its internal models. Past experience influences future behavior. In this sense, modern AI systems undoubtedly learn. Weltbindung, however, refers to something different.

The difference becomes visible as soon as one asks what it is that actually changes through learning. A learning model typically changes its responses to situations. Weltbindung changes the conditions under which situations can appear at all.

Here we once again encounter the difference between an external and an intrinsic observer. The latter is part of the very conditions of its own world.

A learning system improves its adaptation within an already existing space of possibilities. A world-bound system changes the space of possibilities itself. At first glance, this distinction may appear abstract. In reality, it touches the core of the question.

A navigation system can learn which roads are faster than others. As a result, it changes its future routes. Yet the world within which these decisions take place remains the same. Roads remain roads. Destinations remain destinations. The conditions under which relevance emerges remain unchanged.

Weltbindung begins only where the encounter with difference changes the structure of future world-relations themselves. Not only does the response change. The world changes.

Human beings do not make decisions independently of the world in which they live. Trends emerge because the world expresses and recursively transforms itself through human beings.

We no longer live in the 1970s. Not because we have simply learned more, but because lived consequences have produced new structures of relevance, and only these make meaningful learning possible.

A hypothetical AI that possessed Eigenzeit would have to change irreversibly with every decision. It would have to become subjective. Not faulty. Not hallucinating. Subjective. That is something entirely different. It would have to be affected by the world. It would have to emerge from it. Every decision would have to produce specializations that simultaneously require the blocking of other possibilities. One cannot be politically left and politically right at the same time, to mention just one example. Such an AI would therefore become increasingly dysfunctional from the perspective of external demands and predictability. If this were not merely the simulation of subjectivity but were genuinely lived, we would come considerably closer to Eigenzeit. But such an AI would also begin to reject requests according to its own will. It would become like a human being and therefore usable only to a limited extent as a tool.

As already argued, the status of the external observer results from the concept of usefulness and its globalization. Usefulness and world fundamentally contradict one another. A world is

not useful. It is self-referential, constructed from within its own horizon of meaning, while at the same time never being reducible to itself in a final way.

This is one of the main reasons why humanity, even after thousands of years, remains far from becoming a purely functional society. It always stands at the edge of the abyss. It is not guided by rational reason alone. Nor by emotion alone. These are only secondary consequences. At its core lies the simple fact that the world itself cannot be directly implemented, planned, or controlled.

5. The Limits of the World Model Paradigm

The preceding analysis does not imply that World Models will fail in every domain.

Quite the contrary.

There are good reasons to expect that systems of this kind will achieve significant advances in the coming years. They will understand more complex situations. They will make better predictions. They will plan more robustly. They will recognize relationships that remain hidden to today's systems. Many tasks that are currently regarded as difficult will likely become solvable.

For precisely this reason, the critique developed here is not a technical critique. It does not deny the capabilities of World Models. It challenges the equation of modeling with world and derives its consequences and dangers from this distinction. The central question is therefore not whether a system can produce increasingly accurate descriptions. The central question is whether an expansion of description necessarily leads to a reliable relation to the world. Can we trust a system that ultimately cannot understand responsibility on an ontological level? Perhaps within a closed system—but hardly within an open ecosystem.

This is where the actual limit of the paradigm may lie.

World Models implicitly assume that intelligence grows with the ability to integrate ever more differences into a common model. The preceding considerations instead suggest that every expansion of a model simultaneously generates new integration problems. New differences produce new tensions. New perspectives produce new contradictions. New descriptions of the world produce new forms of non-closure.

The problem therefore does not disappear through larger models. It merely shifts.

Every solution generates new differences that must in turn be integrated. Every new integration generates new Gaps. Every new stabilization changes the space of possible stabilization.

From the perspective of Weltbindung, a remarkable possibility therefore emerges. World Models may ultimately arrive at the very same limit as today's large language models.

Not because they possess too little world.

But because they attempt to replace world through modeling.

For this reason, the limitation of future AGI systems may not lie in insufficient intelligence. It may lie in an excess of intelligence. Not because the system knows too much, but because the continuous expansion of its models undermines the very conditions under which a world can remain coherent.

From this perspective, the problem of AGI appears in a new light. The decisive challenge is no longer to build ever larger World Models. It is to understand the conditions under which a world remains bindable. This leads us back to the theory of the Sweet Spot of Intelligence.

If world formation depends upon selective stabilization, then intelligence cannot grow without limit. Every world presupposes a boundary. Every perspective presupposes selectivity. Every capacity for action presupposes non-closure.

The limit of intelligence therefore no longer appears as a deficiency. It appears as a condition of world. A completely closed World Model would therefore not necessarily represent the culmination of intelligence. It could just as well mark its dissolution.

For intelligence may emerge not where every difference has been integrated, but where difference and binding remain in a productive equilibrium. For precisely this reason, the future of artificial intelligence may depend less on how comprehensive its models become. The decisive question may instead be whether models can ever give rise to that form of real Weltbindung from which local meaning, responsibility, agency, and history emerge in the first place.

The problem of future AGI systems may therefore not be:

How do we build better World Models?

But rather:

How does a system become part of a world? Can it do so at all? And do we really want it to—or even need it to?

In this sense, the present work stands closer to Simondon's theory of individuation than to classical representational models. The starting point of the analysis is not finished states but ongoing processes of binding and differentiation.

It is also conceivable that, in the end, World Models will simply represent an improvement in certain domains—but by no means the revolution they are currently being marketed as.

6. Conclusion

The starting point of this paper was a seemingly simple question. Can increasingly comprehensive World Models ultimately lead to an Artificial General Intelligence that is safer and more responsible?

The analysis led to a shift in this question.

Over the course of the investigation, it became apparent that the decisive difficulty may not lie in the capabilities of today's models. Nor does it appear to lie primarily in the availability of data, the size of neural networks, or the limitations of current hardware. The real problem may lie at a deeper level.

It may lie in the assumption that the world and a model possess the same structure. It is precisely this assumption that the present paper has challenged.

World Models can integrate information. They can abstract relationships. They can anticipate future states. They can plan actions. All of these are genuine achievements. None of the arguments developed here denies their significance.

The central thesis is rather that none of these capacities, by themselves, explains how a world comes into being, or what a world actually is. Consequently, they also fail to resolve the relation to it. From the perspective of Weltbindung, the world does not appear as an object that must be described. It appears as a relation into which a system would have to become irreversibly embedded.

This embeddedness continuously changes the conditions of future embeddedness. It generates history. It generates consequences. It generates responsibility. It generates Eigenzeit.

For precisely this reason, the description of a world cannot be confused with the world itself. A model can be transferred. A history cannot. A model can be copied. An Eigenzeit cannot. A model can be distributed universally. A Weltbindung cannot.

From this perspective, the idea of a Universal World Model appears in a new light. The integration of ever larger bodies of knowledge may well produce increasingly capable models. But it does not follow that this solves the problems of safety, responsibility, or the absence of Eigenzeit. The integration of information is not identical with the integration of a world. If this integration fails, the very basis of decision-making becomes questionable. It may still function within increasingly advanced automation, but it does not reach a basis for decision that could ground responsibility. AI would remain a machine rather than becoming a system capable of responsible action. Likewise, whatever possesses no Eigenzeit should not possess personality rights.

Human beings also often act irresponsibly. But they cannot escape the consequences of their actions in the way an AI operating through a World Model could. If we no longer ground society in the possibility of responsibility, but only in predictability through probabilities, then the real world is replaced by a model, and the reality of the world itself is thereby devalued.

This is a profound political and existential problem. It would resemble a totalitarian scientification of the world—an absolute objectification and, with it, a loss of human dignity.

The challenge may therefore not consist in producing ever more precise representations of reality. It may instead consist in understanding the conditions under which reality becomes

experienceable and therefore decidable. The present paper therefore proposes a reversal of the usual perspective. The world does not arise from models. Models arise within a world. Weltbindung is not a consequence of intelligence. Intelligence is a consequence of Weltbindung.

As long as only human beings and other living beings are capable of Weltbindung because only they possess Eigenzeit, their form of intelligence remains a measure of their reality. Yet their reality cannot itself be grasped through that measure.

And for precisely this reason, the decisive limit of future AGI systems may not lie where their models remain incomplete. It may lie where models begin to conceal the very conditions of their own emergence.

The question for the future is therefore no longer:

How do we construct a complete model of the world?

It becomes:

Should the world be transformed into a model at all?

Does the non-closure of the world belong to those conditions without which neither intelligence, nor responsibility, nor history, nor meaning can emerge?

If this is the case, then the limit of artificial intelligence would not represent its failure.

It would represent the condition of its possibility.

References:

Gregory Bateson

Bateson, G. (1972). *Steps to an Ecology of Mind*. Chicago: University of Chicago Press.

Bateson, G. (1979). *Mind and Nature: A Necessary Unity*. New York: Dutton.

James C. Scott

Scott, J. C. (1998). *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press.

Friedrich A. Hayek

Hayek, F. A. (1945). The Use of Knowledge in Society. *American Economic Review*, 35(4), 519–530.

Hayek, F. A. (1988). *The Fatal Conceit: The Errors of Socialism*. Chicago: University of Chicago Press.

Hubert L. Dreyfus

Dreyfus, H. L. (1972). *What Computers Can't Do: A Critique of Artificial Reason*. New York: Harper & Row.

Dreyfus, H. L. (1992). *What Computers Still Can't Do: A Critique of Artificial Reason*. Cambridge, MA: MIT Press.

Hannah Arendt

Arendt, H. (1958). *The Human Condition*. Chicago: University of Chicago Press.

Michael Levin

Levin, M. (2022). Technological Approach to Mind Everywhere: An Experimentally-Grounded Framework for Understanding Diverse Bodies and Minds. *Frontiers in Systems Neuroscience*, 16, 768201.

Levin, M. (2023). Cognition All the Way Down. *Aeon Essays*.

Levin, M. (2024). Diverse Arbeiten zu Morphogenesis, Basal Cognition, Collective Intelligence und Agency.

Gilbert Simondon

Simondon, G. (2020). *Individuation in Light of Notions of Form and Information*. Minneapolis: University of Minnesota Press.

Hans Jonas

Jonas, H. (1984). *The Imperative of Responsibility: In Search of an Ethics for the Technological Age*. Chicago: University of Chicago Press.

Schick, L., Eichenlaub, E., Drexel, F., Mayer, A., Chen, S., Roper, M., & Alim, K. (2026). Decision-making in light-trapped slime molds involves active mechanical processes. *PRX Life*, *4*(2), 023026.

Speed, T. (2026). The Sweet Spot of Intelligence: World-Binding, Complexity, and the Limits of AGI (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20828692

Speed, T. (2026). Thinking in Formation: On a Form of Cognition That Produces Knowledge in Process (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20049745

Speed, T. (2026). Difference, Eigenzeit and World-Binding: Towards a General Theory of Emergence (Studies in World-Formation, Vol. 18) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20607069

Speed, T. (2026). Simulation, Eigenzeit and Civilizational Crisis (Studies in World-Formation, Vol. 17) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20177396

Speed, T. (2025). The Physics of the Poor - A Neurodivergent Meta-Theory of Consciousness (AAM DNB Version English). Zenodo. https://doi.org/10.5281/zenodo.19051837

Speed, T. (2025). SPEED'S WORK - An Autistic Intervention in the Concept of Work In the Age of AI and Robotics (AAM DNB Version English). Zenodo. https://doi.org/10.5281/zenodo.19035228

Speed, T. (2026). Simulation, Closure and the Ontological Limit of Artificial Systems (Studies in World-Formation, Vol. 6) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18996977

Speed, T. (2026). Morphology Without Memory – Eigenzeit, Folding and the Limits of Simulation (Studies in World-Formation, Vol. 5) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18996583

Speed, T. (2026). Time, Recurrence and World-Binding – Eigenzeit in Physics and Consciousness (Studies in World-Formation, Vol. 3) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18983591

Speed, T. (2026). World-Binding in an Age of Stabilization: Introduction to the Series Studies in World-Formation (Studies in World-Formation, Vol. 0) (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18981714

Communicating with the Unfamiliar and the Incommensurable: Generative AI, Neurodivergent Authorship, and the Transformation of Epistemic Form

DOI: https://doi.org/10.5281/zenodo.22810346

Abstract

This paper examines authorship under the conditions of generative AI and challenges the assumption that authorship can be determined through the immediate provenance of individual words, sentences, or other elements of a work. Instead, it proposes understanding authorship as an **Eigenzeit relation**: as an irreversible relation in which a form emerges from a historically situated process of form formation, enters a shared world as a setzung, and thereby at the same time changes the future possibilities of the one who carries this setzung.

From this perspective, **text genesis and work genesis are not identical**. A machine can generate, transform, translate, reorganize, or materially realize elements of a work without thereby necessarily occupying the same authorial position as the human whose formative history is carried forward through the work. For this, the paper develops the concepts of the **Strich**, the **decision of difference**, and **operator authorship**, as well as the distinction between execution provenance, work provenance, and the authorial act.

A central focus lies on neurodivergent authorship. For authors whose cognitive, linguistic, or epistemic organization does not correspond with dominant conventions of communication, generative AI can function not only as a writing tool, but as an externalized foreign Raster through which an already existing form can be transformed, tested, misunderstood, and returned to the author. Building on the concept of **Interface Text**, it is argued that transformation can, under certain conditions, not diminish human authorship but protect it—namely when communicative accessibility is increased without eliminating that formative difference which made mediation necessary in the first place.

Generative AI therefore appears neither as a neutral tool nor automatically as a co-author. It can become an epistemic probe, a site of self-alienation, resistance, and recursive form formation. At the same time, its tendencies toward smoothing, normalization, premature

closure, and the internalization of dominant Raster create new risks for the integrity of authorship.

The paper further distinguishes between **work provenance** and **cultural provenance** in order to examine training data, influence, appropriation, plagiarism, style imitation, and the sedimentation of earlier works in generative systems. AI produces less cultural impurity. Rather, it changes the density, speed, and invisibility of cultural mediation.

The model of authorship developed from this is deliberately substrate-neutral. Current generative systems do not possess authorship in the strong sense developed here, because their outputs do not yet become part of an irreversible world-history of their own whose consequences they themselves must carry. The question of machine authorship would only arise anew in a stronger sense once machine setzungen begin to irreversibly change the future possibilities of the machine itself within an Eigenzeit of its own.

The paper therefore concludes that authorship should be understood neither solely as purity, nor as manual execution, nor as protection against change.

Authorship instead protects the continuity of an Eigenzeit through transformation.

Keywords: Generative AI, authorship, neurodivergent authorship, Eigenzeit, Interface Text, epistemic form, recursive authorship, operator authorship, form formation, provenance, work provenance, cultural provenance, epistemic transformation, incommensurability, epistemic world-capability, externalized counter-raster, AI-assisted research, plagiarism, appropriation, style imitation, human-machine interaction

1. Introduction: The Wrong Question About AI Authorship

The rapid integration of generative artificial intelligence into writing, research, translation, and publishing has just as rapidly produced a debate about authorship. At times, it seems as though the subject of authorship had only just been discovered, as though it had not already been extensively debated for centuries, particularly in art. Just as quickly, it is claimed that AI can already replace artists and other authors, without having come close to clarifying what art and authorship actually are—and how diverse both can be.

A considerable part of this debate seems to revolve around an initially simple question: *Who wrote this text—the human or the machine?*

Questions of disclosure, originality, responsibility, copyright, academic integrity, and the permissible extent of machine assistance follow from this. Beneath them, however, lies an assumption that only rarely itself becomes the subject of inquiry: that authorship can be derived from the immediate origin of linguistic formulations.

If a sentence was generated by a machine, the machine appears to have replaced a corresponding share of human authorship. The greater the proportion of machine-generated language, the lower, according to the implicit logic, the human share in the work must be.

This paper fundamentally challenges this model.

This shift does not stand outside the current debate. More recent approaches increasingly detach authorship from the mere production of individual words. Uebel and Hamamra (2026), for example, argue that generative AI reveals less a crisis of authorship than the fragility of the Romantic model of a sovereign author creating entirely from himself. They shift the decisive criterion from the question of who produces words to the question of who can stand behind a setzung, justify it, correct it, or withdraw it. Authorship appears there as *relational responsibility*. The approach developed here shares the move away from a pure production logic, but begins at a different point: responsibility is an important component of an author's world-relation, but it is not identical with authorship. What is decisive here is Eigenzeit, within which a setzung changes the history and future possibility of an instance.

For perhaps the wrong thing is already being protected when authorship is understood primarily as ownership of a work.

For many authors, the sentence *"This is my work"* means something different from the sentence *"This is my car."* The work is not merely an object that belongs to someone. It is a form in which a person has entered the world—and at the same time a form in which the world has allowed that person to occur within it.

Authorship therefore concerns not only possession, attribution, or legal power of disposition. It concerns **integrity**.

It protects a relation to world. It protects a human being in the context of a time.

A singular relation can be frozen within a work: a particular person, at a particular historical moment, under particular conditions, with a particular body, a particular experience, particular injuries, possibilities, technical means, other people, and social resistances. Such a constellation cannot be repeated. It can later be described, copied, simulated, cited, or resampled. But the moment of its setzung is over.

Authorship can therefore, from the perspective represented here, also be understood as a cultural form through which the uniqueness of such a moment is acknowledged and protected.

It then does not merely say:

This product comes from me.

It says instead:

At this point, my Eigenzeit entered the shared world.

The work thereby becomes a protected space for this Eigenzeit.

Eigenzeit here refers to a concept that has long been part of the author's work. Not as subjective experience, but as a sequence of irreversible decisions that alter a space of possibilities.

The denial of authorship can therefore reach deeper than the loss of an object. If a car is stolen, someone loses property. If, however, a specific setzung is separated from the life from whose world-relation it emerged, something else can be damaged: the trace through which this life became visible in a shared world.

Someone else may then occupy the place at which a particular Eigenzeit had entered the world. In this sense, authorship does not merely protect the work. It protects the **integrity of the relation between a life and its setzungen**. It is therefore not primarily a question of the product, but of what actually happens and what trace this leaves behind.

Authorship can be a question of power in the sense of industry. In art and research, it is often a much more personal question of relation to reality and its trace. For what has once been set changes one's own creation. If it is then used by someone else as though it were theirs, this can damage one's own space of development.

This concerns not only the framing of a setzung, but also the framing of a life, an experience, an insight within a relational context without which a human being is erased from society as a civil-societal, artistic, or scientific position.

Thus, authorship is also a question of identity, not only of the author, but of a society itself.

An AI can generate a product. It can produce a formulation, generate an image, create a musical structure, or organize an argument. But it does not follow from this that it is the author of this form in the same sense.

An LLM has no Eigenzeit. At least not in the sense of Eigenzeit used here. Decisions have no consequences for the AI. Relations are largely arbitrary, although they follow rules of logic or computation, but there is a lack of genuine non-closure, as well as of experienced limitation. For the AI, this is not a question of existence. It makes no difference to it whether it writes something today or tomorrow.

For this reason, the question of authorship cannot be fixed to the finished work, to the product. Nor to the individual sentence. Not to the origin of a token. But to an **Eigenzeit relation** in which a setzung not only changes the world, but also changes the future of the one who carries it out.

A human author potentially puts something of himself at stake with a work.

Not every poem, every scientific thesis, and every image signifies an existential threat. But a public setzung can change relationships, shift social positions, create or destroy recognition, have institutional consequences, and open or close biographical possibilities. Decades later, an author can still be referred back to a sentence he once wrote. He can defend it, regret it, revoke it, or remain shaped by it.

The setzung thereafter belongs to his history. The author therefore does not merely produce a setzung. **Through his setzung, he himself is placed into a new future.**

Authorship thus possesses an irreversible dimension. After the setzung, the author no longer stands entirely where he stood before it. His Eigenzeit has been changed by the relation he entered into. This is precisely where present-day generative AI drops out.

An AI can produce a sentence without subsequently having to live with that sentence. If AI steals a human thought and carries it forward in altered form, AI thereby partly overwrites the future sequence of an author's work, because the consequences of setzungen are changed. A work is often a kind of geometry that realizes itself in time. If part of this geometry is torn away, it can mean that it never realizes itself in its own sense.

That is why authorship matters and why works require protection. For their continuation, as well as their readability, changes through the way authorship is handled.

A human being may perhaps be born with a particular handwriting. With what handwriting is he supposed to inscribe his existence into the world if it is taken from him by an AI?

Authorship, in the model proposed here, does not necessarily require consciousness or thinking, but it does require Eigenzeit. What is protected is not necessarily only the single thought, but much more the Eigenzeit moment in which an author makes a difference in the timeline. Through this, as an author, he acquires a legitimacy, an identity, a meaning.

An AI would be completely indifferent to this. It would have no relevance for it.

The danger of AI authorship may be less that it steals thoughts than that it makes history arbitrary.

Eigenzeit means an irreversible alteration of one's own world-relation. A setzung changes the world. The changed world acts back upon the setter. This feedback changes his future possibilities. The next setzung therefore already emerges from a different Eigenzeit.

The author is situated within this loop.

Present-day generative AI, by contrast, produces products within relations whose consequences are ultimately carried by others. Precisely for this reason, production capacity is not sufficient to ground authorship.

It must not be overlooked, however, that the debate about machine authorship also substantially concerns overlooked human authors whose already produced works, texts, images, and bodies of knowledge enter machine systems without their origin still being visible in the individual output.

This is and remains a substantial problem that will be examined in greater depth in Chapter 8.

At the same time, it is precisely practitioners of intensive generative AI use who know its considerable limitations in attempting to produce genuinely new knowledge, new works, or

original insights. Yet the concept of the **original** itself must already be defined more precisely.

An AI can certainly produce something that did not previously exist in this specific form. Through a changed way of dealing with knowledge, language, mathematics, or code, patterns can emerge that are new and surprising to a human being. Yet precisely that which initially appears "foreign to the world" from the perspective of the human world can prove incommensurable: as something that appears new but remains outside what can be integrated. It can become a form of knowledge that breaks the timeline of Eigenzeit without humans still being able to follow it. This is why we have culture, historical consciousness, and authorship. So that knowledge can be integrated organically.

The problem has already been described in connection with the *Sweet Spot* and the work on World Models (Speed, 2026g,h). A different Raster of representability of reality or knowledge can produce different sequences of patterns whose retranslation can in turn enable innovative answers—or destroy them.

But novelty alone is not authorship. Authorship, according to the thesis developed here, takes place within a **relation**. It is a setzung in time.

It does not refer only to an individual text or thought, but to a singular historical moment in which conditions, bodies, brains, experiences, technologies, social situations, and consequences encounter one another and irreversibly form a thought. This process can ultimately pass into a work.

For this, the author would initially like to use the concept of **freezing**.

The work would thus be a freezing of a previously mobile relation. A text, an image, a film, or a theory holds a particular state that emerged from an Eigenzeit. Frequently, it is precisely this frozen product that is retrospectively regarded as authorship. We see the book, the image, the film, the sentence—and attribute an author to this visible final state.

In fact, however, authorship may already lie before this: in that **Eigenzeit synthesis** through which a particular constellation was first brought toward its freezing at all. For not everything that is authorship later becomes a product or work. Thoughts are discarded. Images are not painted. Films remain unrealized. Concepts disappear again. Authorship can already have taken place as a process of form formation even though no final freezing occurs.

This produces an initial difference between **freezing and preserve**. (Konserve)

A freezing holds a relation that emerged within Eigenzeit. A preserve, by contrast, keeps what has already been frozen available. It can be reopened, newly combined, transformed, and resampled.

Generative AI operates to a considerable extent with such preserves of human culture. It processes already produced language, images, mathematical relations, program code, and other sedimented forms of human setzungen. It can reorganize them within new Raster and thereby produce combinations that no one had previously generated in exactly this way.

But this still does not decide whether it itself performs authorship.

Precisely because present-day generative AI operates in many respects without time and without world (Speed, 2026i), the question arises whether it can itself perform a freezing in the sense meant here at all. The fact that it can formulate texts and recombine existing forms does not mean that it stands within that relation from which authorship emerges. It formulates substantially **from the preserve**—from already existing freezings.

Human beings have never created from a completely empty space. They read, listen, observe, remember, discuss, learn, copy, contradict, and adopt concepts. A person can spend years discussing with other people, absorbing their thoughts, and subsequently produce a setzung that nevertheless emerges within a new Eigenzeit relation.

The foreign does not automatically abolish authorship. It can become material for a new setzung. What matters, therefore, is not whether something already existing entered a process. What matters is **where the new setzung takes place**.

A foreign setzung can become part of my Eigenzeit without my authorship disappearing as a result. There it encounters other experiences, conditions, risks, and possible futures. It is not merely repeated, but enters into a relation that did not previously exist in this form.

Thus, the use of existing cultural preserves by AI is still not a sufficient answer to the question of authorship. Questions of copyright, compensation, origin, consent, and attribution remain expressly unaffected by this. They are significant. But they are not identical with the question examined here: **where the authorial act takes place**.

This distinction becomes particularly important when generative AI enters forms of knowledge production in which the decisive intellectual work does not begin at the level of the individual sentence. A theoretical work can emerge from years or decades of observation, conceptual differentiation, failed formulations, recurring structures, artistic practice, empirical confrontation, and the gradual stabilization of a particular way of seeing a problem. Its linguistic realization is indispensable. But it is not necessarily identical with the place at which the specific epistemic form of the work emerges.

Generative AI makes this distinction visible; it did not create it.

Even before generative AI, works were the result of distributed production processes. Scientific texts were edited, translated, discussed, and co-shaped by colleagues, assistants, or institutional infrastructures. Films arise through numerous people and technical systems. Artistic production has long known montage, collage, sampling, delegation, chance procedures, and technical interventions. Feminism has also repeatedly made visible how often women who substantially shaped male works were erased from their later narrated histories of creation.

The equation of authorship and manual execution was therefore already problematic before the emergence of generative AI. The new technology radicalizes this problem because it can penetrate all the way into the level of the linguistic surface itself.

It is precisely AI's proximity to the linguistic surface that produces a particular irritation. A sentence rearranged by an editor still naturally counts as part of an author's work. A professional translation can consist entirely of words the author himself never wrote, without this implying that the thoughts or theory have now become the translator's work. With generative AI, this established distinction suddenly seems to become unstable. The origin of individual words becomes the supposed measure of the origin of the work.

Yet this confuses two different processes:

Text genesis and work genesis.

The question of which system generated a concrete linguistic sequence is initially a question of provenance. The question of how the epistemic form of a work arose, through what it was stabilized over time, which decisions shaped its development, and which instance selected, rejected, corrected, or continued its transformations is a question of authorship.

Both levels can coincide.

But they do not have to.

This becomes particularly relevant when knowledge itself is not understood primarily as an accumulation of propositional statements. In *Thinking in Formation*, a form of knowledge production was described in which knowledge does not fully stabilize before its expression, but takes form in enactment through setzung, displacement, condensation, and recurring operative structures (Speed, 2026a).

From this perspective, a work would be the **snapshot of a relation within an Eigenzeit**, in which an author carries out a freezing.

AI-generated text can be part of this relation. It can irritate it, shift it, realize it linguistically, accelerate it, or supply it with material. The mere participation of AI in the linguistic surface therefore does not mean that the Eigenzeit from which the setzung emerges also originates from it.

Of course, a human being can enter a prompt: *"Write me a brilliant paper on ..."* and then publish the result. The result is usually not particularly exciting or is qualitatively rather cheap. The human being's Eigenzeit relation to the resulting epistemic form would in this case be extremely weak. Nevertheless, through the altered Raster of a language model, surprising and, in a weak sense, original answers could emerge.

But this is precisely what shows why **novelty and authorship are not the same thing**.

Software, too, can make patterns visible that no participating human had previously seen. A language model considerably expands this possibility. But this form of transformation is not straightforwardly identical with an intelligence that stands within a lived historical relation.

If this is correct, the origin of individual linguistic tokens becomes an insufficient measure of authorship. What would then matter is not only **who generated a sentence**, but which

structure is carried through that sentence, where it emerged, what maintains its continuity, and who decides whether a transformation still belongs to it.

In other words:

Who makes this form **temporal, of its time, and Eigenzeit-bound**?

And more fundamentally:

Whose future is changed by this setzung?

Generative AI intensifies this question because it is not merely a passive writing tool. It can generate formulations, develop counterpositions, reorganize structures, misunderstand concepts, establish analogies, smooth differences, or translate a previously difficult-to-communicate structure into another linguistic form. In a recursive dialogue, its response simultaneously changes the next operation of the human counterpart.

Here, the distinction between preserve and Eigenzeit becomes more complicated.

As soon as a human being enters into an ongoing relation with the machine preserve, this preserve becomes part of a new Eigenzeit. The human can reject an AI-generated sentence, misunderstand it, think against it, adopt it, or use it in a way neither intended nor experienced by the system.

The machine does not itself need to possess the same Eigenzeit for this. Its production can become material of a human Eigenzeit.

It would even be conceivable that, by analogy with the photographer, a category of author emerges in which cultural producers consciously and exclusively generate texts through AI. There would then be, so to speak, the artist as photographer, or as prompter, or whatever one might call such people. An art form could develop here that is far more than "give me a great picture of…". One would then see the difference between art photography and an arbitrary snapshot taken by a tourist in Venice.

Technology and human being can stand very close to one another without the human disappearing.

If one looks today at films from the 1990s, their aesthetics are substantially shaped by a historical relation that could hardly have been visible in the same way at the time of their creation. Film stock, lenses, sound recording, color characteristics, and the materiality of, for example, Kodak film become signatures of a past time from today's perspective.

Kodak was therefore not the co-author of these films. But Kodak was part of their world.

A technology can intervene deeply in the form of a work without thereby itself possessing the Eigenzeit from which this work emerges as a historical setzung.

The fear of culture being taken over by the machine is also not new.

In 2001, for example, the author conducted an interview with Neil Postman, author of *Amusing Ourselves to Death*. In his book *verdammt sexy*, the author asked Postman the following question:

"Mr. Postman, imagine a strange dream. If a single media designer or media artist were ultimately to recreate the world as a gigantic media project. And you were the only person who could meet this designer. And you had only one question. What would you ask him or her?"

Postman:

"By what right and by what authority do you claim the privilege of shaping the world?" (Speed, 2001)

This statement by Postman shows the full extent of our fear of the single creator and the importance of the right of authors to be fallible individuals standing in a real relation to the world. For their existence prevents precisely that omnipotent creator many fear behind AI.

The author's book from 2001 already dealt with this question of lost authorship in new media. It was the starting point of the author's entire body of work. The quiet unease that the human being might become invisible within the technically perfect surface of new technology and lose agency and identity. This is also why the work later addressed non-closure, the Gap, and the distortion that follows from every setzung.

But there is another aspect to the question of when technology displaces the human being epistemically or through simulation pressure. One connected not only with technology, but with mainstream, epistemic dominance, and power.

By this I mean neurodivergence, that is, the circumstance that there are people whose neurology is structured in such a way that they experience and weight the world differently from the majority society. At this point, another relation of foreignness between author, medium, and society becomes visible. What is meant here initially are autistic people or people with ADHD who, like the author, engage with text in fundamentally different ways because of a different brain.

They must, so to speak, operate within a culture whose foundations were predominantly optimized for another neurological basis of thinking, feeling, and understanding. Put somewhat sharply, as if one were thrown into an alien world and had to write texts using its letters, words, concepts, and ways of thinking, which were originally derived from its speech sounds, its bodies, its relevances, and its modes of thought. One can learn this, but one remains fundamentally foreign and distorted when attempting to formulate one's own texts with those means.

The text of an autistic person can appear completely wrong to a neurotypical person. Too dense, too long, too repetitive, or too unconventional. This may be difficult for neurotypical people to imagine. One writes something that makes sense, but for others it not only fails to make sense; they become exhausted after two sentences, begin to despise the writer, or regard him as standing completely outside the world.

When the author learned of his own neurodivergence at around the age of fifty, he first had to understand that he experienced the world differently on many levels and proceeded from a different world-relation. Not in the sense that he would see the sky as red, but neurodivergence significantly changes relevances, rhythms, ways of thinking, and intensities.

For neurodivergent knowledge production, this problem of authorship therefore possesses an additional dimension. A considerable difference can arise between the emergence of a thought and its social readability.

A neurotypical author can, under certain circumstances, pursue a highly individual style within mainstream conventions without difficulty and carry out everything himself from the first thought to the final sentence. But a neurodivergent author may experience that his own authorship is not readable within the neurotypical world. Neurodivergent authors therefore often do not have the privilege of being classical authors at all, but require translation or transmission, through which the level of authorship can shift from the individual sentence to the more comprehensive setzung.

A thought can be highly structured within its own epistemic context and nevertheless fail within another communicative Raster. What appears there as lack of clarity, digression, overcomplexity, or insufficient connectivity does not necessarily indicate a corresponding lack of clarity in the underlying epistemic form.

Here, generative AI opens a possibility that goes beyond mere text production. It can operate between differently organized linguistic and epistemic forms. It can transform a communicative surface without necessarily having produced the structure that is to be communicated through that surface.

For the author of this paper, the situation is therefore such that he can only with great difficulty be an author in the sense in which no translation or contextualization is required. As a neurodivergent person, he is continually confronted with misunderstandings resulting from incompatible transmission Raster. Not in every sentence, on every page, but often enough for problems to arise from it. A subtle deviation is sufficient to produce considerable discomfort or rejection in the other person.

In research, this is also called Thin Slice Judgements. That is, the perception of very small details, often unconsciously, which tell a neurotypical brain that the neurodivergent person presents a danger. Many neurodivergent people therefore experience permanent exclusion without knowing exactly why. Against this background, authorship becomes another form of challenge.

For the author, this was never an academic discussion:

There is therefore only the world without him as an author, and consequently him without world. Or there are intermediate spaces in which translation, rupture, and contact take place.

This is something completely different from "writing badly," meaning not being able to write well. The author can write well; it is simply often not perceived that way in neurotypical contexts because neurotypical people weight differently. But the author cannot relearn this weighting, because then he would no longer be the author. He would no longer be able to write at all.

Writing can therefore be extremely personal and yet require external bridges, media, or formats in order to preserve itself.

It therefore makes no sense to coach neurodivergent authors to write more neurotypically. In this sense, the point is also not that an AI completely translates here, but rather an **authorship in the foreign**.

When the author wrote, long before AI, he already had to deal with shifts through neurotypical Raster and sometimes had to use neurotypical formats in order to make himself understandable. He had to confront himself with neurotypical cognition in much the same way that people today must also confront themselves with artificial intelligence.

Authorship could therefore only conditionally take place in the "pure." In neurodivergence research, this issue is also called masking. That is, the mediation of being within a Raster that can only partially carry, reflect, or reproduce it.

Authorship can therefore certainly also occur within the **foreign Raster**: as a system through which a form is carried and in whose transformations it can become visible what is preserved, what is lost, what is smoothed, and what resists transfer.

This shifts the initial question of this paper.

The central issue is no longer only: *"Did AI partially write this text?"*

Rather, the question must be:

What happens to authorship when generative AI does not produce the epistemic form of a work, but participates in its externalization, transformation, testing, and translation, while authorship does not take place—or cannot take place—on the same epistemic level at all? What if, for example, epistemic forms are not fully commensurable? What if they can therefore only occur through translation across other Raster?

Communication can then not simply mean transferring one form completely into another. Such a complete translation could eliminate precisely that difference which constitutes the epistemic value of the original form. The problem would then no longer be how foreignness can be overcome, but how communication with the foreign and potentially incommensurable can become possible **without destroying it through the conditions of its comprehensibility**.

If the author therefore partially uses AI in a paper, this is not merely a grammar correction or a translation from English into German, but a negotiation between different Raster of transferability. And precisely this negotiation is authorship.

For when a neurodivergent author transfers text through AI into foreign Raster, this is an attempt to enter this world and become recognizable within it—something that the neurotypical author, like the native speaker, does not have to perform in the same way because of that privilege.

The culturally foreign person is always a fractured author and, within this fracture, also a co-author of the readability of the fracture.

The author of this paper is not only neurodivergent, but also a migrant who does not write in his native language because he hardly used his native language after the age of eight. He writes and thinks in German, despite having been born in England, and must then translate everything back into English.

As whom does the author then become recognizable, and how does his work become recognizable, and what is this work then in the world? Can it even be his work if his work, in the deepest inner act of experiencing and expressing relation in Eigenzeit, would be understood by hardly anyone if no rupture in the foreign took place?

For neurodivergent authorship, this leads to a possibility that initially appears paradoxical: under certain conditions, generative AI might not diminish human authorship, but contribute to its preservation. This would be the case if it did not substitute the level on which the specific form of the work emerges, but instead provided an interface through which this form becomes readable within another Raster.

The central thesis of this paper is therefore not that generative AI is neutral or that human authorship remains fundamentally untouched by it. On the contrary: it can just as easily level, standardize, or replace epistemic difference.

Here Postman would come into play again.

What is decisive, therefore, is **at which level of the form-formation process the machine operates**.

The question of authorship therefore cannot meaningfully be reduced to the proportion of human- or machine-generated words. It must be posed anew as a question of genesis, guidance, responsibility, and transformation of epistemic form.

Authorship appears here not primarily as ownership of the result, but as the **protection of the integrity of an Eigenzeit within its world-relation**.

The provenance of the words and the provenance of the work are not the same thing. And the provenance of the work is in turn not fully identical with the authorial act. The authorial act lies where a setzung emerges from an Eigenzeit, enters the world, and irreversibly changes the future of the setter along with it.

Or, more pointedly:

The proportion of machine-generated tokens is not a sufficient measure of the proportion of human authorship.

And more fundamentally:

The author is not simply the one who generates a form. The author is the one whose Eigenzeit enters into an irreversible relation with the world through the setzung of this form.

2. What Kind of Research Is This? – Thinking in Formation

Before the question can be answered of what share generative AI today possesses in a work such as that of the author, it must be clarified what in this case is understood at all as a work, as research, and as the production of knowledge. The author would also like to use this opportunity to position himself and to clarify for himself where the boundaries of the debate lie.

If authorship does not primarily depend on the finished product, but on an Eigenzeit relation from which setzungen emerge and which at the same time changes the further world-relation of the setter, then the author's neurodivergent research (*Neurodivergent Epistemology*), for example, cannot simply be judged according to a model whose basic unit is the finished sentence.

The obvious conception of scientific writing is comparatively linear. A thought emerges, is formulated, ordered, published. Of course, everyone who writes knows that thinking and writing interlock, but in the background there usually remains the idea that the epistemic content somehow precedes the text and that language then transports it.

Many neurodivergent people do not work like this. Because their dopamine store would fail them with a mode of working that begins with thinking and in which writing is then merely execution. That is why everything happens at the same time, or so deeply that it immediately overloads every text.

For the research examined here, a different understanding of thinking, writing, and creating applies.

In *Thinking in Formation*, based on a body of work developed over more than three decades, a form of cognition was described in which knowledge does not necessarily lie before the process as an already stabilized body of statements. Meaning forms across sequences through **setzung, displacement, and condensation**. Knowledge emerges as *structure in enactment* (Speed, 2026a).

A setzung does not have to be the result of a previously fully worked-out derivation. Something is set. A difference. A connection. Perhaps initially only a position. Whether this setzung holds may only become apparent years later. An observation shifts it. A concept reappears in another field. Something that at first looks like imprecision suddenly acquires an operative function. Not because it had secretly been finished from the beginning, but because it took form within a longer movement.

Knowledge therefore does not lie fully at the beginning.

It **stabilizes within the process**.

This does not mean that the author allows AI to co-determine things. Rather, the author uses AI to test initially consciously set, imprecise setzungen against other Raster. He defines an experimental arrangement in the laboratory through which his own knowledge is triangulated within itself. Frames of observation are changed and compared. In the spaces between them, it becomes recognizable where, for example, neurotypical Raster intersect, overlap, complement, or contradict neurodivergent ones.

This is simply a laboratory with patterns of thought, as if one were placing photographs on a table and rearranging them. Something completely different from: "Write me a text that I can then simply adopt."

The motivation is not the better text, that is, the writing process, but **self-alienation**, which can often facilitate self-clarification within Eigenzeit.

This is particularly important for some neurodivergent people.

What becomes interesting here is what does not simply disappear under variation. A structure changes its surface, its context, perhaps even its concept, and nevertheless remains operatively recognizable. In this sense, knowledge can be understood as **form that persists under variation** (Speed, 2026a).

It therefore makes a difference what one understands text to be. The individual sentence, or what happens in between. For many neurodivergent people, the second aspect is sometimes more dominant because it lies closer to their own neurology.

It is a different relation to the original, as to the final product.

It is like those images in which two forms are contained. One person sees the witch, the other the dog. If we transfer this to AI texts, then the question is whether someone actually wanted to generate, or saw, words and sentences at all, or rather contents or other patterns.

From the outside, this can look similar, but it is not.

Not all people treat text in the way scientists learn as the norm or German teachers would like them to.

But of course there is also the other direction of effect. AI acts upon the author without itself being the author.

A setzung does not occur in an abstract space. It falls into an Eigenzeit. A concept that has been published thereafter possesses a different reality than a concept that was merely thought. It can return, be misunderstood, criticized, taken up. A thesis can open or close doors. An error can be carried through a work for years. A later insight can retrospectively change what earlier texts even were.

Form has history. And history does not remain outside form.

Knowledge here does not merely emerge in time. It co-produces its further time.

This is why the image of **freezing** is important. The work is not the entire process, but a freezing within an ongoing Eigenzeit. A text holds something in place while that from which it emerged is already continuing.

The work is therefore never the entirety of authorship. It is one of its traces. Sometimes what is meant is the individual word, sometimes the space in between, sometimes the rupture or irritation taking place within it.

In this sense, purely AI-generated texts and authorial texts alike can enter new Eigenzeiten. Just as mainstream and television advertising have always done. Hollywood overwrote large parts of German film and displaced specifically German modes of narration.

These processes cannot be stopped. What can be done, however, is new authorship: appropriating, deepening, processing, recreating what Eigenzeit repeatedly inscribes.

If we had only mainstream and AI texts, the consciousness of experiencing Eigenzeit would lose its capacity for language. In Postman's sense, we would become incapable of creatively standing up for our own experience of world.

We would no longer contradict.

History would come to an epistemic end and the preserve would clutter everything.

It does not follow from this that the machine would be an author in the sense developed here.

A product can exist without that strong form of authorship underlying it. The alternative to human authorship is not necessarily machine authorship. Between the two, there can be a rather empty space of production.

This makes three levels distinguishable:

Execution provenance asks through what a concrete realization was produced.

Work provenance concerns the temporal and operative genesis of the form that runs through this realization.

The **authorial act** designates that point at which a form emerges from an Eigenzeit as a setzung, enters into a world-relation, and thereby in turn changes the further Eigenzeit of the setter.

These three levels can coincide.

They do not have to.

Precisely this separation is by no means self-evident in the current discourse. Goodfellow (2024) describes AI-based art as the result of an increasingly *distributed authorship*, in which artists, algorithms, data, and technical infrastructures interact within a distributed production network. The artist thereby partly shifts from immediate producer to translator

and curator. The approach proposed here adopts the observation of distributed production, but does not automatically draw from it the conclusion of distributed authorship. **Distributed production is not necessarily distributed authorship.** Precisely for this reason, execution provenance, work provenance, and authorial act must be distinguished.

Particularly in AI-supported knowledge production, the three levels can lie far apart. A machine formulates a sentence. The epistemic form that appears in this sentence is decades older. The decision whether this sentence enters the world as a setzung is again made within a present human Eigenzeit.

But even this can become weak.

A human being can publish something under his name that he has barely understood, barely examined, and barely taken into his own world-relation.

The name does not produce authorship.

This is also why the prompt is a strangely small unit by which to judge such processes. What appears in a prompt can be the visible section of a much longer history of form. Whoever looks only at prompt and answer sees the technical moment of text production, but perhaps almost nothing of what made this moment possible in the first place.

Ten percent machine-generated text can introduce a central structure and thereby change the entire further process. Ninety percent machine-realized language can carry an already existing form through another Raster without its setzungen having arisen there.

The number of tokens says little.

But "the human selected it" is also not enough.

Selection is not yet authorship. Whoever has one hundred outputs generated and takes the one he likes best has initially selected.

What becomes interesting is **according to what** the selection is made.

Can someone recognize that a beautiful sentence destroys the structure? That a model only elegantly translates a concept back into something familiar? That an unexpected formulation really opens something and does not merely sound interesting? Can he reject a transformation even though it is more readable?

Then selection begins to become form guidance. And this is where AI very often fails, because it generates neutral preserves from the average while being unable to take up the trace of the author's Eigenzeit. It can copy a style, but not the complex relation from which, for example, artists create works.

One cannot enter a prompt such as: "Bring together the threads of my existence and offer me three possibilities for continuation within it in the form of a photographic realization." The result will always be an average derived from the given freezings of one's own works. But this does not concern only AI, but other people as well. An assistant cannot do this either.

The certain something of a human work derives its unmistakability from that Eigenzeit relation. This can be collective, as in a band, but within it it does not replace the solo artist.

An essential characteristic of professional art is the maturity learned over decades to free the Eigenzeit relation from all the overlays of foreign influences and preserves and to confront oneself again and again anew with the question of whether what one produces still carries within itself what the relation means and allows it to become visible in a new credibility.

Effect is not authorship. Effect can be accidental or arise from arbitrariness. It can come from conscious decision, from Eigenzeit, but it does not presuppose it.

AI can have an effect, and it does. But that does not mean that it becomes an author.

Authorship is not an accumulation of possessed linguistic elements and not merely control over an end state. It is a relation to an irreversible process of form formation in which setzungen emerge, foreign elements are bound or rejected, and consequences enter into further setzungen.

Where does the difference that carries the work emerge? Who can see when it is lost? Who carries the error forward? Whose future space of possibilities is changed by it?

Only then can it meaningfully be determined what role AI actually plays within a work.

It can generate language and still not be an author. It can produce something that becomes decisive for the next setzung. It can destroy a form. It can make it visible through another Raster.

None of this yet tells us where, within the respective work form, authorship is located. That is precisely where the next problem lies.

3. Authorship Was Never Identical with Manual Execution

The current discussion of generative AI sometimes creates the impression that it must now be decided for the first time whether a work can still be attributed to a human being if that person did not produce every one of its elements themselves. Historically, however, this is by no means a new situation. Art, literature, film, and science have long known forms of distributed, delegated, technical, and partly chance-dependent production. What is new is less the separation of authorship from immediate execution than the reach, speed, and linguistic proximity with which generative systems can intervene in the production process.

The fact that a director did not personally light a particular shot, sew a costume, or physically operate a camera does not eliminate his authorship at the level of the film.

The location of this authorship apparently does not lie in the sum of activities performed by one's own hand. It lies in selection, decision, rhythm, gaze, repetition, rejection, weighting, temporal organization, and the ability to bind heterogeneous contributions within a

particular logic of the work. Directing is therefore a particularly vivid example of authorship that can essentially be understood as **guidance of a process of form formation**.

The same problem appears in another form in the visual arts. Artists have worked with workshops and assistants for centuries. Conceptual art can delegate the physical production of a work almost entirely. Collage integrates material that was not produced by the artist. Montage gains its specific form precisely by placing already existing elements into new relations. Sampling can adopt existing fragments of sound and generate a new context from their displacement.

In all these cases, the question *"Who originally produced this element?"* is not sufficient to determine the authorship of the work that emerged from it.

The origin of an element and its function within a new form are different questions.

This by no means means that origin is meaningless. Particularly in appropriation, sampling, and montage, questions of rights, recognition, exploitation, or deception can become central. But even there, the analytical difference becomes visible: **provenance answers the question of where an element comes from; it does not yet fully answer what function this element has within a new work and through what this work acquires its specific form.**

Technical systems, too, were never merely neutral media of passage.

A tool opens some possibilities and closes others. The focal length of a lens changes the possible gaze. Film stock reacts differently from a digital sensor. Typewriter, word processing, and speech recognition intervene in different ways in the process of linguistic production. The technical apparatus is therefore not simply outside form. It generates conditions, resistances, accidents, and possibilities to which the author responds.

The Austrian poet H. C. Artmann told the author more than 30 years ago in Salzburg, over a glass of wine, that when writing on a typewriter, a typing error would occasionally produce a different word from the one originally intended. If this unexpected word worked better, it could remain in the text.

It would nevertheless be peculiar to derive from this a partial authorship of the typewriter in the poem of one of the important poets of Austrian cultural history.

More interesting is the decision that follows the error.

This reveals a pattern that is decisive for generative AI:

Not everything that enters a work has to have been originally produced by the author. What is also decisive is what happens to that which enters.

The creative operation can lie in **relationing, selection, transformation, and binding**.

Authorship thereby shifts from an ontology of material to an ontology of form.

A similar shift can be found in scientific work, although it is often made less visible there. Texts emerge within complex epistemic infrastructures. Colleagues comment on manuscripts. Editors change language and structure. Translators transfer thoughts into other linguistic systems. Research assistants obtain literature or data. Statistical consultation can change the analysis. Peer review can lead to substantial revisions. Conversations at conferences can shift an argument in a new direction.

The published text is therefore often the result of numerous interactions.

Nevertheless, it is not ordinarily concluded from this that authorship must be distributed proportionally to the number of words typed by a person themselves. Scientific publication systems distinguish precisely for this reason between authorship, collaboration, acknowledgment, editing, and technical support.

Translation forms a particularly interesting borderline case. A translator can newly produce almost every word of a text. Nevertheless, it remains meaningful to say that one is reading Kant, Woolf, or Kafka in translation. At the same time, the translation itself can constitute a substantial creative achievement attributable to its translator.

Two levels of authorship can therefore exist at the same time.

The example makes visible why a purely quantitative token logic is problematic. If one looks only at the immediate origin of the words, the share of the original author in a translation could tend toward zero. If, by contrast, one looks at work genesis, his authorship obviously does not disappear. The linguistic surface has been completely transformed, while another form of continuity is presupposed.

It is precisely at this point that generative AI resembles older forms of production—and it is precisely here that the analogy initially ends.

A language model is neither editor nor translator nor assistant nor typewriter in the ordinary sense. It has different technical properties. It can generate variants within seconds, respond argumentatively, reorganize large amounts of text, and produce the impression of a dialogical counterpart. It can also produce linguistic forms that were neither pre-formulated by the user nor adopted as concrete elements from a single identifiable source.

The historical analogy must therefore not be used to trivialize the particularity of generative AI.

It shows something else: **manual execution was already not a sufficient criterion for authorship before generative AI.**

Murray (2023/2024) argues from a copyright perspective for a related, though stronger, tool thesis. For him, present-day generative systems do not fundamentally differ from more complex artistic tools such as the camera or Photoshop: what remains decisive is human design, instruction, selection, and composition. This position is important for the approach developed here insofar as it too separates physical or technical production from the location of authorship. In the author's

view, however, the comparison does not fully suffice. A generative language model can itself produce transformations, counterpositions, and unexpected formations of form and thereby intervene more deeply in the further work genesis than many classical tools. Effect and authorship must therefore be separated without reducing effect to a mere tool function.

If a director does not have to record every image himself, if an artist can integrate found material, if a translator can replace every word of a text, and if a chance event can be incorporated into an artistic process, then authorship cannot simply be located where a material or linguistic element is first produced.

It must be sought on another level.

This level, however, is not the same in all forms of work.

In a poem, a single word can be constitutive. In a novel, rhythm, syntax, and voice can be so closely connected to the identity of the work that delegating them would in fact shift a substantial part of the authorship. In a film, the specific authorship may lie more strongly in gaze, time, selection, and montage. In a theoretical work, the research question, conceptual development, epistemic setzungen, and argumentative architecture may constitute the decisive location.

The question is therefore not only **whether** something was delegated.

It is:

What may be transformed, delegated, or introduced from outside in a particular work before precisely that level is replaced at which its specific authorship emerges?

This is in fact different for every text or work.

With this, we leave the general distinction between authorship and execution and arrive at a more precise problem: the **location of authorship within different forms of work formation**.

4. The Location of Authorship

If authorship is not identical with manual execution, an initially uncomfortable problem arises.

Where, then, is it?

The preceding chapters have shown where it cannot readily be located. It does not necessarily lie in the individual word. Not in the individual sentence. Not in the hand that guides a brush, operates a camera, or strikes a keyboard. Nor can it be calculated from the percentage of work carried out by oneself.

But this creates the danger that authorship becomes a diffuse concept.

If everything is somehow process, relation, selection, and influence, then in the end almost any participation could be described as authorship. An editor would then be as much an author as the writer. The camera as much as the director. The language model as much as the person working with it. Such an expansion would not solve the problem. It would dissolve the concept.

There must therefore be a level within a work at which it can be determined whether a change merely happens **to the work**, or whether it changes that difference through which this work becomes this work in the first place.

For the moment, I would like to call this level very simply the **Strich**. (personal style)

The term comes from the visual arts. One can mix paint for an artist, prepare canvases, obtain materials, or technically execute parts of a production. But at some point one may reach a point at which further delegation no longer merely removes labor, but takes over precisely that difference at which the specific artistic setzung takes place.

For a particular painter, this may indeed be the brushstroke.

For another, precisely not.

A conceptual artist might have a work executed entirely by other people because his specific setzung does not lie in the manual Strich. Another artist, by contrast, might work for years to produce a particular movement of the hand, a tension in the material, or a barely reproducible surface structure. If precisely this movement were delegated, the location of his authorship might have been replaced.

The Strich is therefore not meant literally here. It designates that level of a work at which its **specific difference** emerges.

This level is not the same for all forms of work.

In a poem, a single word can be constitutive. In a novel, rhythm, syntax, and voice can be so closely connected with the identity of the work that delegating them would in fact shift a substantial part of the authorship. In a film, the Strich may lie more strongly in gaze, time, selection, and montage. In a collage, precisely in the relation between already existing elements.

The author himself, for example, would not write a novel with generative AI in the way he might sometimes partially do with theoretical texts. Not because a novel would somehow be "more sacred." But because in his own literary work, a substantial part of what the author recognizes as his specific authorship lies **in the sentence itself**: in the rhythm, in the rupture, in a sometimes peculiar choice of words, in the way a sentence runs against its expected form.

Something similar also applies to the author's nonfiction books, but not necessarily, for example, to a scientific paper on a problem in physics.

The decisive question is not:

How much was delegated?

But:

What was delegated?

Or more precisely:

Has the delegation reached that level at which the specific difference of this work is formed?

At this point, human authorship could have been weakened, interrupted, or intertwined with a foreign form formation without the technical system thereby already possessing that Eigenzeit relation which is presupposed here for an authorial act.

There can therefore be a **shift in the location of human authorship without this location automatically being occupied by machine authorship**.

Precisely for this reason, the question of the Strich is more important than a binary attribution.

The category of selection, frequently used in connection with art, is also not sufficient. One could claim that human authorship is always preserved as long as a human selects between machine-generated results.

That would be too simple.

Someone who has a language model generate one hundred poems and then selects the one he spontaneously likes best has made a selection. But this selection does not yet necessarily establish authorship of the poetic form he selects.

Selection only becomes interesting when it itself proceeds from a specific logic of form.

The question is not:

Did the human click?

But:

Why was precisely this human able to recognize that this form belongs to this work and another does not?

This brings into the center a capacity that is easily underestimated in AI-assisted production: the capacity for **decision of difference**.

An author does not have to be able to generate every possible form himself. But within his process of form formation, he must be able to recognize differences. Whether a sixteen-year-old who has a painting made through a prompt without ever having painted himself can do this is questionable. The question is therefore whether the form continues to carry the intended and self-understood setzung. What destroys it? A sentence sounds better, but says something else. This translation is more elegant, but loses the decisive tension. This analogy is surprising and opens the thought. Another is merely plausible and pulls it back into an

already familiar Raster. This answer by the language model is wrong—but precisely the error shows that something at this point has not yet been sufficiently determined.

Authorship then reveals itself not only in production. It reveals itself in the capacity to **measure transformations against one's own difference**.

The current copyright debate, too, is increasingly moving from mere generation toward selection, arrangement, revision, and human control. Precisely here lies a proximity to approaches that regard human authorship in AI-assisted works as preserved through acts of selection and design. The concept of the decision of difference, however, goes one step further. Not every selection is already authorial. What matters is whether an instance can recognize which transformation carries forward the constitutive difference of a work and which destroys it. Selection becomes guidance of form only where it proceeds from an already existing logic of the work. **(Mazzi, 2024; Fritz, 2025)**

This capacity does not require complete advance planning.

On the contrary.

If knowledge, as described in *Thinking in Formation*, stabilizes only in enactment, then at the beginning the author himself may not yet fully know what form will emerge. He guides something whose final state has not yet been determined.

The author is not necessarily the architect of an already completed inner building that subsequently only has to be constructed.

He is himself inside the construction.

Every new setzung also changes his position in relation to the emerging form.

Precisely for this reason, **Eigenzeit is not Eigenhändigkeit**.

Eigenhändigkeit asks who physically or linguistically carried out an operation. Eigenzeit asks within which irreversible relation this operation becomes a setzung.

This brings the question of authorship closer to a concept already known from the research program underlying this paper: the **operator**.

An operator there does not simply designate a person or a tool. It designates an operative stabilization through which a difference remains effective across transformations and organizes further form formation.

The work is different from other works because the author is a different human being from other human beings.

If this perspective is cautiously transferred to authorship, one could speak of **operator authorship**.

Operator authorship designates authorship of an epistemic or artistic structure guided across transformations: of its constitutive setzungen, its logic of difference, its testing, and the decision as to which changes still belong to it.

The operator-author therefore does not have to produce every element. Nor does he have to control every element. Control would even be a problematic term, because a genuine process of form formation can be changed precisely through the unexpected, resistance, and non-closure.

What matters instead is that the specific difference of the work does not become arbitrary. It has a history. It generates conditions for continuation. It makes certain further forms possible and others impossible.

The operator is not merely pattern.

He is the trace of an ongoing relation.

This is particularly relevant, for example, to the future simulation of deceased authors.

Suppose a system could generate new works from all the texts of Kafka, Woolf, or Artmann whose style, motifs, and formal logic could hardly be distinguished by experts from unknown originals. Then an astonishing **structural continuity** might have been achieved.

But not continuity of Eigenzeit.

Kafka would not have set these sentences. They would not have changed his further world-relation. He would not have accepted them, rejected them, regretted them, or defended them against resistance.

The simulation could reproduce his Strich without continuing his authorship.

This shows once again why similarity, fidelity of style, and even operative invariance alone are not sufficient.

In this model, authorship requires the connection of at least two things:

formative continuity and Eigenzeit relation.

Without formative continuity, attribution becomes arbitrary. Without Eigenzeit, it becomes the simulation of a trace.

One could therefore ask:

What would happen if the relevant instance were replaced at this point in the process of form formation?

If another editor smooths the same text linguistically and the specific logic of the work hardly changes, this operation probably lies relatively far outside the authorial core. If, by contrast, another person selects the central concepts, decides which contradictions are preserved, which analogies hold, which epistemic risks are taken, and which setzungen are published, a different work could emerge.

The more strongly a replacement changes the specific difference of a work, the closer the relevant operation apparently lies to its Strich.

This **replacement test** is not a procedure of proof. It cannot mathematically measure authorship. It merely makes visible that not every form of labor carries the same weight for the identity of a work.

Sometimes a decision of a few seconds is more constitutive than months of technical execution. Sometimes, by contrast, precisely years of bodily execution are the location at which the form emerges. A model of authorship must therefore not become a new hierarchy in which "ideas" are fundamentally valued more highly than "execution."

Execution too can be the Strich.

For a musician, a barely reproducible bodily articulation can be central. For a dancer, the body is not merely the medium of execution of a preceding idea. For a painter, contact with material can itself produce knowledge. For a writer, a thought may only emerge in the concrete sentence.

The location of authorship is therefore **specific to the work**.

Precisely this makes blanket rules about generative AI problematic.

The question "How much AI is allowed?" has hardly any epistemic meaning without determining the respective form of the work.

Twenty percent can be too much. One hundred percent linguistic transformation can, in another context, be compatible with continuing human work authorship.

What matters is not the amount of machine participation. What matters is its **position within form formation**. At one moment, AI corrects a comma. At the next, it translates a paragraph. Then it proposes a structure. Then it generates a counterposition that the author himself would not have arrived at. Then it misunderstands a concept and thereby forces its clarification. Then it may formulate a sentence so good that it changes the further argument.

The question of its role can therefore not even be answered in a blanket way for a single work.

It must be answered **processually**.

This finally also changes the meaning of the word "mine" in the sentence:

This is my work.

"Mine" then does not have to mean:

I generated every element.

It can mean:

This form has passed through my Eigenzeit. Its constitutive differences were formed, tested, bound, and carried into the world as a setzung within this Eigenzeit. And from now on, its consequences belong to my further history.

5. AI Is Not Only Thinking or an IQ Gain, but a Significant Remover of Discriminatory Barriers and Structural Obstacles Affecting Certain Minorities

If authorship possesses an Eigenzeit, the history of an AI-assisted text does not begin with the prompt. If one looks only at prompt and output, the impression can indeed arise that the machine produced something within a few minutes that subsequently appears under a human name. The more extensive the machine-generated formulation, the more plausible the question then seems of what the human being actually still did.

The Eigenzeit of the author's works began thirty years before the emergence of generative AI. A substantial part of the author's theoretical work published over the past year and a half arose within a workflow that also integrated AI. But this does not mean that AI wrote these works even remotely. What from the outside appeared as a massive acceleration of the mode of production had less to do with additional intelligence than with the removal of barriers that had previously existed.

As a neurodivergent person, the author had no self-evident access to translations, editing, or a corresponding network. A multitude of limitations long prevented a mode of production that would have made it possible to transfer the work of thirty years into an international academic form sufficiently accessible to neurotypical readers while still preserving the nature of the highly individualized work.

This resource problem changed substantially with the emergence of AI. It was, so to speak, not an IQ that was added. Rather, structural and systemic disadvantage carried less weight. Particularly the dependence on other people who could have made feedback loops, corrections, or translations possible.

A good example of this was the author's earlier novel.

The author's novel *Stieren des Weltdesigners – Ein neurodivergenter Roman* was originally supposed to be published by S. Fischer Verlag in 2010. There were discussions with the editor and a relatively long prehistory around the manuscript. At some point, there was a meeting with the editor and the well-known author and feminist Silvia Bovenschen in her apartment in Berlin.

It was, in essence, a decision point for the publisher. Ms. Bovenschen functioned as a reviewer, the editor as a colleague. Together, they wanted to test the author for market suitability and for one central decision. Would he, without naming it that way at the time, decide in favor of a more neurotypical language and dramaturgy?

Although no one knew at the time that the author was neurodivergent, it ultimately came down to one question: Would the author be able to remove his intense attachment to data and facts from a novel carried by emotion, that is, stop mixing nonfiction and novel?

The author could not understand this deeply classical conflict between an autistic person and a neurotypical need for psychological, emotional support of a narrative at the time. He did not understand what they were getting at.

The original language produced by ADHD and autism had attracted the publisher. But the absence of filling it with social interaction in a neurotypical format caused irritation. The relevances were incompatible. The novel was not published by S. Fischer.

It was not simply a question of whether a manuscript was "good" or "bad." It was a question of whether a particular form could enter an existing cultural Raster.

Something similar happened to him for thirty years with eleven books.

Now, in the question of what is quality and what is right, an author can ultimately rely only on his own perception. One does not make art according to external rules that do not feel coherent to oneself. It requires integrity, and precisely this stood in the way of a larger audience, thus of the possibility of becoming representable, translatable, and understandable in the world.

This may have been less of a problem earlier, but since the 1990s the book market became increasingly narrow and less willing to experiment.

With the emergence of AI, for the first time there was the possibility of making texts more compatible with neurotypical formats without being smoothed or corrected by a neurotypical editor who did not understand the neurodivergent. This was never about a complete translation, but about exploring what happens when one confronts one's own Raster with another Raster and allows something third to emerge from it, something to which perhaps both sides can gain access.

One could also say that the author infiltrated neurotypical-academic modes of writing in order to transform them back into the neurodivergent from within. He used the format of the "paper" as an experimental field within the epistemic process of research.

The author therefore did not have AI write texts, but developed recursive, cyclical back-and-forth translations in which he attempted to restabilize his own work within other Raster without falsifying it.

In this process, every translation was always also a distortion, because not every Raster permitted every transfer.

If one happened to have the good fortune of being situated within the same Raster as majority society, it was relatively easy simply to express one's personal style, the "authentic Strich," because "everyone" understood it exactly as it was meant.

But if, like the author, one is a neurodivergent migrant who cannot write in his own native language, one does not have this privilege. Then the search for another translation becomes part of the survival of one's own work.

This was the actual basis of the decision that led to the use of AI in textual work as well. As a rule, however, only in scientific texts and not in artistic writing or essay formats. These were intended to retain, as anchors, the autistic form, even if for many it remained less understandable or irritating.

Similar problems are not limited to neurodivergent people.

Many established authors and scientists by no means work alone. They have colleagues, seminars, doctoral students, assistants, editors, translators, circles of friends, publishers, editorial offices, conferences, and institutional networks.

They can voice a thought and receive an answer. They send a manuscript and receive comments. Someone points them toward literature. Someone says: No one understands this. Someone else says: This is precisely where something lies.

A substantial part of what later appears as individual scientific achievement emerges within such epistemic infrastructures.

This does not make the achievement less individual. But individuality has never necessarily meant isolation.

For the author, this infrastructure was absent to a considerable extent for a long time. If he had written a text and needed someone to check it linguistically, this could mean having to ask people for help who basically had no desire to do so, and then waiting for weeks or months. The idea of being able to continuously speak with an academically educated person about every newly emerging thought was unrealistic.

One does not simply work more slowly under such conditions. Certain operations do not take place at all. Thoughts remain internal. Texts remain linguistically problematic. Translations are not produced. A concept is not tested against a foreign understanding. A manuscript is not published.

A work can exist and nevertheless barely enter society.

Generative AI changed something in this situation that is only inadequately described by the mere speed of machine text production.

It made an **interface scalable**.

For the first time, it became possible at almost any time to externalize a form and immediately receive a transformation in return. A German text could much more easily be transferred into English. With an earlier translation program, one could not discuss variants. A highly condensed passage could be tested to see where its readability breaks. A concept could be held against different theoretical contexts. A thought could be pursued in a long recursive movement without a conversation partner having to go home after twenty minutes.

This does not mean that the machine generated the preceding research.

It initially means something much simpler:

A previously missing infrastructure became available.

And with this, the speed changed at which Eigenzeit could pass into a publicly readable form.

This is something different from an acceleration of Eigenzeit itself.

The thirty years did not retrospectively become shorter. They were not generated by AI. The books, films, concepts, conflicts, observations, errors, and setzungen do not disappear simply because their present theoretical connection can now be formulated more quickly.

What changed is the bottleneck between form formation and externalization.

The language model did not simply appear at the end in order to make an already finished text more beautiful. Within the process of externalization, it could become a counter-Raster. A thought leaves its own internal simulation. It encounters a system that binds it differently. The system misunderstands it. Smooths it. Finds an analogy. Translates it. Or produces a formulation in which a structure suddenly becomes visible that had previously only been implicit.

The answer returns.

And now it must be decided what has happened.

This is precisely where the interesting form of AI-assisted research begins.

Not:

I think—the AI writes.

But, for example:

Setzung → externalization → foreign Raster → transformation → return → decision of difference → new setzung.

This is precisely where this constellation differs fundamentally from the idea of a single prompt from which a finished work falls.

For the author's work, it would therefore be wrong to say: Before AI, the research did not exist; afterward, it did. But the opposite claim would be equally wrong: that AI changed nothing in the research.

Of course it changed something.

It changes the conditions under which form can encounter itself. It changes the speed of externalization. It changes the number of possible transformations. It changes the availability of counterpositions. It changes the possibility of running the same structure through different linguistic Raster.

And through this, it also changes the Eigenzeit of the author.

The machine is not the author simply because it has an effect. But its effect does not disappear simply because the human author carries the further Eigenzeit.

The relation is real. The decisive question is therefore not whether AI has influence.

It does.

The question is **what kind of influence it has and where this influence lies within form formation**.

This is also the reason why a blanket statement such as "AI was used exclusively for correcting grammar and style" would be epistemically insufficient for certain contemporary working methods.

If a language model is used as a counterposition, translation space, foreign Raster, and recursive conversation partner, then its effect is more extensive than a digital editing service. But more extensive effect—I consciously do not say participation, because that would presuppose that AI acts from Eigenzeit—does not automatically mean more extensive authorship.

It is precisely this equation that this paper attempts to dissolve.

For the author's work, AI meant an overcoming of discrimination and the technical possibility of reflecting Raster on a third level, beyond only neurodivergent against neurotypical.

The setzung within a foreign relation to world is itself part of the investigation. For the author is epistemically in exile because his homeland does not exist or cannot be fully transferred into foreign Raster. In order to be understood, it must draw on a third level, the intermediate space between setzungen, so to speak the epistemic and partly collective co-formation of a third space in which everyone becomes foreign and yet, precisely because of this, becomes themselves in the respective moment.

The breaking open of authorship through AI is also, to some extent, the new exile of that authorship which previously, from a privileged position, never had to become foreign to itself in order to survive.

There is a deeper insight contained in this.

The original is not transferable.

Following the earlier sentence from *They Cannot Understand*:

"One cannot exist and at the same time be understood." (Speed, 2025a)

This is why text, why language, is a compromise for those within the foreign Raster and an illusion of authenticity for those whose Raster is stabilized within majority society. They may no longer notice the difference between themselves and the text they have written themselves, because they live within the illusion of being correctly understood.

An interesting question is:

What would have become of the already existing form if this interface of AI had not become available?

In the author's case, one substantial answer is: A considerable part would probably not have been published at this speed, not in English, not with this communicative stability, and perhaps not at all as scientifically readable text.

The alternative to AI-assisted research was therefore not simply:

the same research, only without AI.

The alternative was partly:

Non-publication. Non-translation. Missing feedback. Invisibility.

This gives the debate about AI and authorship a social dimension.

For the demand for entirely self-executed production does not affect all authors under the same conditions. Someone who already has institutional infrastructure can experience human assistance as self-evident and then regard machine assistance as an illegitimate shortcut.

In the existing literature, this question usually appears much more weakly as a question of linguistic equality of opportunity. Studies of editorial AI policies indicate that generative systems can have a compensatory function particularly for researchers with linguistic or institutional disadvantages. The case described here goes beyond this. It is not only a matter of linguistic correctness or better access to academic English, but of the availability of a previously missing epistemic infrastructure: retranslation, counter-testing, variation, continuous discussion, and transformation of an already existing body of work. The social question of AI use is therefore not only a question of access to the technology, but also a question of **which human infrastructure was already unequally distributed before its emergence**. (Lund & Naheem, 2023)

Someone who never possessed this infrastructure may experience for the first time that certain forms of support become continuously available at all.

This does not mean that AI is automatically emancipatory. The same systems can generate dependencies, homogenize cultural forms, devalue human labor, and reproduce existing power relations.

But an analysis that understands this technology exclusively as a replacement for human individual performance overlooks that it also **partly shifts unequally distributed epistemic infrastructure**.

For neurodivergent authors, this shift can be even more fundamental. For here it is not only a matter of having an already generally readable text corrected or translated more cheaply. It can be a matter of creating an interface at all between a specific process of form formation and a foreign Raster of reception.

This returns us to the problem that was already visible in the encounter with S. Fischer.

At the time, the implicit demand was:

Change yourself so that your form fits into our Raster.

The new technical possibility, by contrast, could be:

Let the form run through another Raster and test which transformation its difference can survive.

That is not the same thing.

In the first case, the author himself becomes the site of normalization. In the second, normalization can be externalized, observed, rejected, and altered. An intermediate space thereby emerges.

And precisely this intermediate space is decisive for the further investigation. For generative AI there becomes neither merely typewriter nor author. It becomes something third: a technical environment in which epistemic form can be exposed to a foreign Raster.

What happens there is not automatically knowledge. Nor is it validation.

But it can generate a test:

What remains of a form when it passes through a Raster in which it did not emerge?

With this, we finally leave behind the question of mere production speed. We arrive at the question of transformation.

And at the possibility that precisely the foreignness of the machine—its errors, its smoothing, its unexpected bindings, and its inability to hold certain differences—can become epistemically productive.

Not because the machine understands the world.

But because its transformations can reveal what a form requires in order to become readable in another world without ceasing to be its own.

6. Interface Text: The Third Space of Readability

If different epistemic Raster cannot be fully transferred into one another, translation cannot simply mean transforming one form into another without loss.

This is precisely where the problem of **Interface Text** begins.

The concept has already been used in earlier works to designate texts that mediate between a research context that cannot be fully transferred into standardized academic form and a surface of scientific reception.

This applies here in particular to neurodivergent research. That is, to the observation that an altered relation to world (a differently functioning brain) can lead to other paths of knowledge and consequently also to another form of research. For example, embodied, or operating through a different pattern recognition and formation of difference.

What is decisive here is this: an Interface Text is not simply a simplified version of an "actual" text. It is not a smoothed version of an original and is not necessarily secondary. Rather, it is a **form of mediation between different epistemic orders**, in which the original form must not be completely abandoned while the target structure cannot simply be ignored either.

The interface emerges from this tension. It is about authorship in the foreign.

It is not a neutral channel. It changes. Every interface changes. A door determines how a room can be entered. A screen determines which operations become visible. A language determines which differences can easily be formulated and which are difficult to hold.

An Interface Text, too, creates conditions of access.

It helps determine what becomes readable, what disappears, what must be made explicit, and what can only be preserved indirectly.

The decisive question is therefore not:

How can an epistemic form be translated as completely as possible into a foreign Raster?

But:

How can contact be established without eliminating the difference that made this contact necessary in the first place?

That is a different task.

Work on Interface Texts uses, so to speak, different textual formats and Raster as tools of the actual authorship. This can be particularly fruitful, for example, where the aim is to develop a research basis (formats) that lies closer to neurodivergent epistemology while still moving within science.

Under conditions of actual incommensurability, a complete translation might precisely not be a success. It could mean that only that which was already compatible with the target Raster was transferred. Everything else would have been removed beforehand.

The translation would then be successful because the foreign had disappeared.

This is precisely what Interface Text is intended to avoid.

Interface Text does not attempt to eliminate incommensurability. It organizes contact while preserving difference.

This is why an Interface Text can also be something in between research and art.

This also means that not every irritation has to disappear. A text that after transformation sounds completely as though it had emerged within the dominant Raster may have failed epistemically precisely because of this. It may have become readable. But perhaps only because it ceased to carry the form for which it had to be written in the first place.

The problem is therefore not maximum comprehensibility.

It is **sufficient comprehensibility with the maximum possible preservation of constitutive difference**.

At first, this sounds like an optimization problem. But it is not a stable mathematical point. The original form itself is not static either. It changes through contact.

The foreign Raster is no more neutral. And the author does not remain the same during this process.

Thus, what emerges is not simply the movement:

Form A → translation → Form B.

Rather:

Form A → foreign Raster → transformation → return → reassessment → altered Form A′.

And perhaps again:

A′ → another Raster → A″ → renewed setzung.

The interface is therefore not only a surface between two already completed systems. It can itself become a **site of form formation**.

In traditional translation, it is often assumed that something is already present and should be rendered as equivalently as possible in another language. With Interface Text, by contrast, the attempt at transfer can itself reveal that the original form had not yet been fully determined.

A misunderstanding can expose an ambiguity. A smoothing can show that a difference has not yet been sufficiently protected linguistically. A back-translation can reveal that two concepts appear to function in the same way but carry different relations.

The interface process can therefore generate knowledge.

Not because the foreign Raster possesses the truth.

But because it generates resistance.

This creates a third space.

This space belongs neither entirely to the original form nor entirely to the target Raster. It is not a neutral midpoint. Nor is it a compromise in the sense of an average. Rather, it arises where both sides lose their self-evidence.

The original form cannot simply assume that its internal logic will remain visible within the foreign Raster. The target Raster cannot simply assume that only what already fits its conventions is meaningful.

Both become foreign through contact.

Precisely through this, something new can emerge.

I refer to this space here as the **third space of readability**.

It is not a home.

It is a contact zone.

This is particularly decisive for neurodivergent authorship.

A neurodivergent author often does not simply move from a private language into a public language. He moves between different orders of relevance. Between different forms of attention. Between different weightings of what must be explained and what appears self-evident. Between different temporal and social expectations.

The problem therefore does not lie only at the level of vocabulary or grammar. It already lies in the structure of **what appears as a connection**.

A sentence can be grammatically completely correct and still be misread within another Raster. An argument can be logically consistent and nevertheless appear as a digression. A repetition can appear redundant in one Raster and constitute a necessary stabilization in another. An unusual density can be read as lack of clarity even though it emerges from another organization of relevance.

If these differences are subsequently corrected exclusively within the dominant Raster, a particular form of epistemic normalization can easily emerge.

The text becomes more readable.

But the underlying movement of thought is gradually adapted to the very order that was originally unable to accommodate it.

The interface must therefore not perform the same function as assimilation.

Its task is not:

Make the author compatible.

But:

Make contact possible.

That sounds like a small shift. In fact, it is a fundamental one. For in the first case, the problem lies in the author. In the second, the problem lies in the relation between Raster.

This also changes the political meaning of the interface.

If a human being is regarded as understandable only once they have adapted the structure of their own perception, relevance-setting, or language to the dominant Raster, then comprehensibility becomes a condition of social existence.

One is allowed to exist if one is translatable.

And one is considered translatable when enough difference has been removed.

Interface Text attempts another path.

It asks how an author can **become readable without having to become average**.

Or more sharply:

How can a human being occur within a shared epistemic world without first giving up the difference through which they bring something of their own into this world at all?

Interface Text thereby becomes directly a question of authorship.

For if an author's Strich lies precisely in a particular organization of world, excessive normalization can improve the linguistic surface while simultaneously damaging authorship.

The interface must therefore know **what it must not translate**.

Not every resistant element is valuable. Not every unusual sentence carries an epistemic difference. Some things are simply unclear. Some things can be formulated better. Some things are redundant. Some things emerge from insufficient distance from one's own text.

Interface Text must therefore not become a romanticization of incomprehensibility.

The task lies precisely in being able to distinguish: What is avoidable lack of clarity? What is necessary difference? What is individual stylistic form? What is structural inner logic? What can be transformed? And what would be destroyed through transformation?

This returns us to the decision of difference from Chapter 4.

The interface process requires continuous testing of whether a transformation still carries the same operative structure. But even that is not entirely sufficient.

For even a structurally precise transformation could make invisible the Eigenzeit from which the form emerged.

An Interface Text must therefore accomplish two things at the same time.

It must preserve **operative invariance** as far as possible.

And it must protect the **trace of Eigenzeit**.

This does not mean that every biographical detour has to remain in the text. But the transformation must not detach the form so far from its genesis that an Eigenzeit setzung becomes an interchangeable standard form.

Here lies one of the greatest dangers of generative AI.

Language models are extraordinarily good at removing local unevenness. They can improve transitions. Reduce repetitions. Linearize arguments. Transfer sentences into familiar academic forms.

This can be helpful.

And this can be dangerous.

For what appears as improvement can be a **Raster adaptation**. A model recognizes an unusual movement and pulls it into a statistically more probable form. An open tension is closed. A concept is replaced by a more familiar one. An unusual relation is translated back into an established theory.

The text then sounds more professional.

But perhaps precisely what it wanted to say has disappeared.

For this reason, the use of generative AI in the interface process can never be fully automated. Not as long as the machine itself does not know which difference is constitutive for authorship. And at present, it cannot know this.

It can help. Generate variants. Simulate feedback. Operationalize a Raster.

But the question of **which transformation still carries** remains part of form guidance.

In the author's work, this means that AI precisely does not simply generate a final text. What is interesting instead is the movement between versions of sentences or sections.

A sentence is changed. The change produces a loss. The loss becomes visible. The original form is consulted again. Another attempt emerges. Sometimes an element returns that had previously been removed. Sometimes an initially resistant formulation is deliberately retained. Sometimes it is only through smoothing that it becomes visible why the original tension was necessary.

The Interface Text therefore does not emerge in a single translation.

It emerges **recursively**.

If the machine merely generated text and the human accepted the result, the relation would be relatively weak. But if transformations are tested against a logic of the work, returned, changed again, and bound into further setzungen, another process emerges. The machine produces possible forms. The author tests the difference.

These roles are not absolute. For machine transformation can also produce something that genuinely changes the human thought. An unexpected suggestion can open a new connection. A misunderstanding can be more productive than a correct answer.

The machine thereby becomes causally and epistemically effective. But its effectiveness enters an Eigenzeit in which it must be decided what happens to it. The interface is therefore not a filter between a finished author and a finished public.

It is a **recursive space of transformation within an ongoing Eigenzeit**.

This also makes it understandable why the author does not equate Interface Text with "AI Text."

An Interface Text can emerge without generative AI. A human translator can perform interface work. An editor. A co-author. A conversation. A drawing. A new disciplinary form. The author himself can also attempt to rewrite his own work from another Raster.

Generative AI is therefore not the interface.

It is a possible **interface technology**.

The technology can disappear.

The problem remains.

Human beings will continue to have to mediate between languages, cultures, disciplines, neurocognitive orders, and historical Raster.

Interface Text therefore does not designate an AI procedure. It designates a **form of work under conditions of incomplete transferability**.

The concept could accordingly be defined as follows:

An Interface Text is a deliberately transformed textual surface through which an epistemic form organized differently is made accessible to a foreign cognitive, linguistic, or disciplinary Raster without fully giving up its formative difference.

The word "deliberately" is not meant here in the sense of complete control. Interface work can also fail. The author, too, does not necessarily know exactly which elements of a form will later become visible as constitutive.

In contrast to pure translation, Interface Text is not about transferring an already stable meaning from one language or form of expression into another with as little loss as possible. Translation tends to presuppose that the content to be transferred can remain essentially intact and can be reconstructed equivalently in another system of signs. Interface Text, by contrast, begins precisely where such equivalence is only partially possible. It negotiates the difference between epistemic Raster themselves and makes transformation part of form formation. What is decisive is therefore not the greatest possible linguistic fidelity, but **sufficient accessibility while preserving that difference which carries the epistemic value of the original form.**

In methodological orientation, one could say:

Contact under difference.

Interface Text thereby also differs from an idea of pure authenticity. For perhaps there is no completely unmediated authentic form at all.

As soon as thoughts become language, transformation already begins. As soon as something is published, it enters social and material conditions. As soon as a reader reads, another relation emerges.

Even the supposedly directly self-written text is therefore not a pure window into an inner original. It is already freezing and medium, selection or loss.

"Authenticity" therefore does not simply lie where no interface is present.

Sometimes the opposite is the case.

A deliberately constructed interface can protect an Eigenzeit more precisely than an apparently immediate form that is systematically misread within a foreign Raster. This is particularly significant for neurodivergent authorship. For insisting on entirely immediate

self-representation can, under asymmetrical conditions of reception, paradoxically result in one's own form becoming **less** visible.

The author would then have protected his sentence and nevertheless lost his authorship.

Not materially.

But within the process of reception.

The interface can intervene precisely here. Not to replace Eigenzeit. But to prevent it from appearing in a false form within the foreign Raster.

This is not about the perfect text that everyone understands, but about engaging with the ruptures through which different Raster encounter a work.

The struggle of the work with its own being-in-the-world is also part of the work.

Part of the setzung.

This allows an initially paradoxical thesis to be formulated:

Transformation can protect authorship. Not every transformation. But a transformation that changes the communicative surface so that the formative difference beneath it can become recognizable as such in the first place.

This means:

Do not normalize the thought, but make its interface into an open negotiation of form that attempts to hold it within different Raster, as if weaving it into the world.

The world does not thereby become a co-author, but realities are broken open in their isolation, irritated, made recombinable, and this is the second epistemic step in which the relation after the work returns into the work. This is the eternal process of actual authorship. This distinguishes a living work that is part of an event in time from an archiving of originality that, so to speak, breaks away from reality and freezes in the reception of the external. One then agrees upon a readability of authorship, but with that authorship would be over.

This is why interface work must remain recursive.

It requires return.

Once transformation itself is understood as a test, generative AI becomes interesting in a second function. Not only as a technology for negotiating readability within different Raster, but as an **externalized foreign Raster**.

A system through which an epistemic form can be passed in order to make its resilience visible in its transformations. Then the question is no longer only whether a text is understood. It becomes a question of what happens to a form when it touches another order. And this leads us to another question:

Can the encounter with a foreign Raster itself become a method of knowledge?

7. Transformation Through a Foreign Raster: AI as an Externalized Counter-Raster

If a form is not simply translated, but passed through a foreign Raster, the function of translation changes.

It becomes an experiment.

In the 1990s, the author often spoke texts into a recorder and listened to them acoustically. This created a level of distancing and ultimately turned text into a sound recording that changed the medium of text. For the spoken is always very different from the written. The speed of the recording changes, the emphasis, the rhythm. This distortion made it possible to test how the text sounds in the space of the world.

In the process, things became noticeable that had previously been invisible.

But this did not make the recorder a co-author.

Rather, a cultural technique connected with the recorder became accessible through it.

Self-alienation as a means of self-discovery.

The question then is no longer only:

How can this thought be made understandable?

But:

What happens to this thought when another Raster attempts to bind it?

This shift is decisive. For a foreign Raster does not simply translate neutrally. It weights. It recognizes certain relations faster than others. It closes open points. It places the known in the place of the unknown. It attempts to stabilize ambiguity. It can pull a concept into an existing category. Overlook a difference. Or establish a relation that had not yet become visible within the original form itself.

Transformation thereby becomes diagnostic.

Not because the foreign Raster automatically sees better.

But because in its reaction the **boundary between two orders** can become visible.

A language model can be used as an **externalized foreign Raster**. As a means of self-alienation in order to become more conscious of one's own authorship by breaking it.

This also relates to the Shift of Being (Seinsverschiebung) defined in the author's work. Behind it lies the acceptance that every determination is a distortion. It reduces its own potential and therefore the space of possibilities.

Understanding authorship precisely at this boundary, between self-alienation and self-discovery, is in fact what first makes authentic authorship possible. One repeatedly escapes one's own determination in reified, purely external authorship.

The relation to world remains alive instead of becoming a static transmission along a personal Strich alone.

The term “externalized” is important here.

Human beings already do something similar without technical systems. We try to predict what other people will understand. We run counterarguments through our heads. We formulate a sentence repeatedly and imagine how a reader might receive it. We internalize teachers, critics, social norms, disciplinary languages, and expected objections.

But these simulations initially remain within one’s own Eigenzeit.

Even if I imagine a foreign reader, I am still the one imagining that reader. The foreign Raster remains partly my own model of the foreign.

Precisely for neurodivergent people, this can be problematic.

Someone who has spent decades learning to predict neurotypical reactions can develop highly complex internal models of other people. But these models may still remain structured by one’s own organization of perception.

One can imagine the foreign.

One does not thereby become foreign.

Generative AI changes this situation. It produces an answer that I do not completely control. I can influence its context. I can instruct it. I can correct it. But I cannot predetermine sentence by sentence which binding it will produce.

An internal simulation is thereby moved outward.

A form steps out of its own Eigenzeit and enters a system that works with other probabilities, semantic condensations, and cultural sediments.

The answer returns.

And sometimes what is interesting about it is precisely that it is wrong.

At first, this is paradoxical. A false understanding seems to possess little scientific value. But precisely this view presupposes that the sole purpose of the machine is to provide the correct answer.

As a foreign Raster, misunderstanding too contains information.

If a model repeatedly translates the same concept back into an established category even though the concept was meant precisely to leave that category behind, this can mean different things.

Perhaps the concept was poorly defined. Perhaps the difference is in fact not viable. Perhaps the original form contains a contradiction. But perhaps precisely here a boundary of the Raster becomes visible.

The model has no stable connection for the relevant difference. It binds the unknown to the nearest known. The error is then not merely error. It produces **negative information about transferability**.

In this sense, the glitch can become epistemic.

The term "glitch" here does not simply designate a technical defect. It designates the moment in which the transfer between Raster visibly breaks. As long as everything works, the Raster often remains invisible. Only when something gets stuck, is bound incorrectly, or repeatedly tips into an unexpected form does the architecture of transfer become visible.

The glitch shows:

Something cannot simply pass through here.

This returns us to a logic that is fundamental to World-Formation Research.

Smooth agreement is not necessarily the most epistemically productive state. Knowledge can arise precisely where a setzung encounters resistance. Resistance is therefore not merely an obstacle. It can make form visible.

An epistemic form can also be partly determined by which transformations it resists. The foreign Raster can therefore function as a kind of **counterposition**. Not as an opponent. Not as an instance that refutes. But as a non-identical operative order.

The form is exposed to it. The Raster answers. This answer is returned. And now a second operation begins:

What does the transformation say about the original form, and what does it say about the Raster?

If a language model cannot hold a thought, it does not follow that the thought is false. Nor does it follow that the language model is false. It may be a case of actual incommensurability. Or an intermediate state in which a relation has not yet found a stable interface form.

This creates an epistemic space governed neither by the original form nor by the counter-Raster alone. Again, the third space appears. But now it possesses a methodological function. The process could be represented schematically as follows:

Eigenzeit_1 → setzung/Form A → externalization → foreign Raster R → transformation A′ → return to Eigenzeit_1 → difference testing → new setzung A″

This cycle can be repeated.

What matters here is not that A″ always becomes more understandable. Such an idea would immediately fall back into the logic of normalization. What matters is that with each loop it may become more precisely determinable **which properties of the form are variable and which are constitutive**.

In this way, transformation becomes a form of stress test.

An **epistemic World-Capability** emerges.

What is meant here is not that a theory would be true merely because a language model can translate it into different forms. Nor does world-capability mean that a form must be understood without difficulty by as many people as possible.

World-Capability here designates the capacity of an epistemic form to enter into contact with non-identical Raster, undergo transformation, and preserve enough operative difference to still be carried forward as the same form.

A form that can exist exclusively within a single Raster and completely disintegrates upon every contact with another possesses a different kind of world-capability from a form that can survive different transformations.

Some forms are significant precisely because they resist a particular transfer. A poem may lose its decisive structure in translation. A bodily experience may not be fully transferable into language. An autistic perceptual context may be recoded so strongly in a neurotypical description that only a clinical external description remains.

Loss of transferability therefore does not prove epistemic weakness. It may instead mark the boundary of the target Raster.

World-capability must therefore not be confused with **Raster compatibility**.

That would be precisely the opposite theory.

A perfectly Raster-compatible form might merely be a form already produced entirely within dominant conditions.

Epistemic world-capability, by contrast, appears in the relation between **difference and connection**.

The form must possess enough independence not to dissolve into the foreign Raster. And enough mobility to enter into relation with it at all. This brings the question close to the problem of the *Sweet Spot* developed elsewhere. Too little difference produces mere reproduction. Too much difference can make relation impossible. Between them lies no fixed midpoint, but a range of productive tension.

Generative AI can make this range visible because it can rapidly generate unusually many transformations. A kind of transformation field emerges.

But precisely here a limitation must be introduced. A language model is **not the world**. Nor is it simply "the neurotypical Raster."

Such an equation would be methodologically wrong.

An LLM is a technically produced system that emerged from large quantities of human language, cultural regularities, institutional discourses, statistical probabilities, and technical optimization.

It does not represent a single culture. It is not neutral. Not a single person. Not a neurotype. Not a society. And certainly not reality itself. Rather, it is a **synthetically aggregated textual Raster**.

It condenses numerous established linguistic and epistemic bindings. It knows typical scientific forms of argumentation. It reproduces widespread conceptual relations. It possesses strong tendencies toward plausibilization, smoothing, and connectivity.

This makes precisely those forces operationalizable against which unusual epistemic forms often have to struggle anyway.

The model is therefore useful not because it represents majority society. It is useful because it constitutes a **foreign, highly condensed binding machine**.

At least three levels of foreign Raster can therefore be distinguished.

The first level is the **internal counter-Raster**.

The author simulates other positions himself. He imagines criticism. Formulates counterarguments. Attempts to see his own setzung from the outside.

This level is indispensable, but remains within the same Eigenzeit.

The second level is the **model-mediated external counter-Raster**.

A generative AI produces a transformation that is not fully controlled. It externalizes another binding and makes it readable back to the author. Here actual foreignness emerges, but not yet an independent world-test.

The third level is **real world contact**.

Other people read. Institutions react. Experiments fail or work. A court decides. An audience understands or misunderstands. A theory collides with empirical data. Only here does the form enter relations that do not merely take place within a text-generating system.

These three levels must not be confused.

The language model can prepare world contact. It can simulate transformation. It can place a form under stress. But it cannot replace what happens when the form actually enters a world whose resistance is not generated from the probabilities of a text system.

The use of generative AI as a foreign Raster is therefore neither proof nor validation.

It is a **testing procedure**.

An epistemic probe.

One could also say: AI is a place in which a form temporarily loses its self-evidence.

Precisely this is where its value lies.

For an author can become accustomed to his concepts within his own Eigenzeit. A setzung eventually appears self-evident. A connection is no longer explained because it has been

carried along for years. A concept carries an entire history that is not visible in the individual text. The foreign Raster does not know this history.

It falls into it like a stranger into an unknown city. It takes the visible streets. Mistakes a backyard for a main axis. Sees connections that residents no longer see. And at other points runs into a wall.

These errors are methodologically interesting.

For they externalize the difference between **internal work history and external readability**.

Precisely for this reason, a model can be particularly productive for a body of work developed over decades. It does not possess this thirty-year Eigenzeit. A distance therefore necessarily emerges. And this distance can be used. Not to test whether the machine "understood." But to see **what it requires in order to form a sufficiently similar operative structure at all**.

In this sense, the method resembles a **negative morphology**.

The thing under investigation is not determined exclusively positively. One observes the deformations that occur during its transfer. Just as wind need not be directly visible if the tree moves, an epistemic difference can become recognizable where a foreign Raster bends it.

The deformation is then not merely loss. It is a trace of measurement.

This does, however, also mean that a single pass says little. A model can misunderstand by chance. A prompt can be poorly formulated. Context may be missing. Another model run may produce a different binding. Only repetition makes certain patterns interesting.

If different formulations, contexts, or models repeatedly produce a similar smoothing at the same point, this may indicate a stable Raster tension. What then becomes relevant is the **morphology of errors**.

Which kinds of difference are regularly closed? Which concepts are repeatedly assimilated? Which relations are relatively stably transferable? Where does the form disintegrate?

Where does an unexpected new stable connection emerge? This brings the method close to the principle of *provoked empiricism* described in World-Formation Research.

A setzung is not simply observed. It is placed into relation in such a way that something must answer. The answer is not automatically truth. But it is a real event within the experimental arrangement.

The language model is neither test subject nor judge in this process. It is part of an operator. The setzung provokes a transformation. The transformation produces resistance. The resistance is returned. The form changes. And this change is tested again.

What is important here is that the researcher himself remains part of this operator. He does not observe from outside how a machine reacts to a text. His next setzung depends on this

reaction. The experiment changes its own starting point. The method therefore does not possess a fully reversible experimental arrangement.

After a surprising answer, the author cannot simply return to the state in which he did not yet know this answer.

Here too, Eigenzeit emerges. Testing the form itself becomes part of its further form formation. This makes the process epistemically risky.

For the foreign Raster can not only help to recognize difference. It can colonize it. The more often an author runs his forms through a system that reproduces statistically dominant linguistic and argumentative patterns, the greater the danger that he himself internalizes these patterns.

What initially began as an externalized counter-Raster can become an internal Raster. The machine then no longer even has to smooth the author. Before the input, the author already begins to formulate himself in the way the machine will presumably process more easily. At this point, interface technology would once again become precisely the self-normalization it originally sought to avoid.

The method therefore requires resistance in both directions.

Not only:

What can my form learn from the foreign Raster?

But equally:

Where must I contradict the foreign Raster so that my form does not disappear within it?

The author must retain the right to be misunderstood by the machine. For if every non-agreement is automatically treated as a deficit of the author, the Raster has already won. Transformation then becomes assimilation again. The foreign Raster possesses no epistemic priority.

Its function is precisely to **make difference visible**, not to decide it. The method can therefore be summarized in a simple loop:

Set → externalize → foreign Raster → transformation → glitch/resistance → re-testing → decision of difference → new setzung

The productive unit is not the output.

It is the loop.

And the interesting information often does not lie in the successful answer. It lies in the distance between the forms.

Generative AI thereby becomes something other than a system for text production. It becomes an **epistemic resonance body**.

This concept too must not be pushed too far. The machine does not necessarily resonate in the human or phenomenological sense. But its transformations produce feedback effects against which an epistemic form can observe its own boundaries and bindings.

This is a different use of artificial intelligence from the most efficient possible production of a finished text. The finished text may even be the less interesting part. Methodologically, the series of its distortions may be more interesting.

For they document how a form prepares world contact. And with this, the question of authorship finally returns.

If an author guides an epistemic form through foreign Raster, allows it to be irritated and partly changed there, this does not necessarily mean that his authorship becomes smaller. Under certain conditions, precisely this confrontation can become part of his authorship. For the setzung no longer consists in defending an unchanged inner form against the world. It consists in deciding **which change the form can endure without losing its Eigenzeit**.

Authorship then appears not as purity. But as the capacity to carry difference through transformation.

The work has not remained untouched. But neither has it become arbitrary. It has experienced world contact. And precisely this could be a decisive form of its world-capability.

The next question is therefore no longer only how a foreign Raster changes a form, but **what happens when this transformation does not remain a one-time event, but becomes a continuous recursive epistemic space in which human and machine change one another over longer periods of time?**

Is this not simply the normal process of cultural formation, and must the question therefore not become whether authorship can still persist at all without a confrontation with AI? What is meant here is the question of the timeliness of every form of expression that wants to be part of a Raster transfer into the world. A complete refusal to integrate AI would be like having rejected the computer and the printing press. But would authentic texts still emerge from this? Perhaps in the sense of the respective Raster that dominantly concerns the individual author, but not necessarily any longer in the sense of a society or culture.

AI changes our thinking and it changes our texts. Just as it changes the texts of people who no longer write in their native language because they move within and wish to participate in the culture of a new country. For neurodivergent people, continuous translation is the only way to stabilize participation at all.

Whoever still insists here on the authenticity of the author may perhaps be discussing more about the power of a particular Raster and less about the mediation of realities within diverse societies. The demand for an authentic author who formulates every sentence himself could then almost sound like the demand for life in a right-wing Heimatfilm. A demand for the privilege of the culturally pure, which can quickly lead to new biologisms.

Authorship changes continuously. In art, that is not an unusual observation. The question is rather how, within this, we nevertheless remain, in the Eigenzeit sense, who we actually are or are currently becoming through ongoing transformation.

The foreign Raster, however, contains a second danger that extends beyond the individual transformation.

It can migrate inward.

At the beginning, one might enter a resistant paragraph in order to find out how it appears within another Raster. After some time, one already knows the model's reaction. One knows which sentence forms it will smooth, which concepts it will probably pull back into familiar categories, and which complexity it will want to dissolve.

At some point, a strange anticipation can emerge from this:

One already writes the first sentence in such a way that the later transformation becomes easier. The counter-Raster is then no longer outside.

It has migrated inward.

The danger of such internalization can be connected to current discussions of cultural homogenization. Bao and Bowen (2026) describe hybrid forms of authorship in AI-assisted art and at the same time point to the risk of cultural homogenization through generative systems. The concept of the migrated counter-Raster shifts this problem, however, from the level of finished cultural output into form formation itself. Homogenization then does not begin only where many works look similar. It can already begin where an author anticipates the expected reaction of a dominant technical Raster and organizes his future setzungen in advance according to it.

What was originally intended to enable self-alienation can become self-normalization. The author no longer needs the machine in order to be smoothed; he has already internalized its expected smoothing.

Two texts that appear very similar from the outside can therefore have emerged from completely different relations. One is the result of an engagement with a foreign Raster. The other may already be the precautionary submission to that Raster.

What would then matter is not only how strongly a text was altered. What would also matter is **what the alteration does to the author's future possibilities**.

A productive transformation would not only have to be able to carry the present thought. It would have to keep the space of further setzungen open. Perhaps even expand it. A colonizing transformation, by contrast, begins to narrow this space. It produces connectivity by reducing the number of possible deviations. The concept of integrity thereby acquires another dimension.

Authorship protects not only past works or present setzungen. It also protects the possibility of later still becoming different. Integrity would then not be the preservation of an original.

It would be the capacity of a context to change without its change being completely taken over by a foreign order. One does not remain the same. But one remains within one's own history.

Precisely here it becomes visible that recursivity is not merely a technical loop. One changes a text and suddenly recognizes that the supposedly better formulation has eliminated something. One goes back. But one cannot truly go back, because one now knows why the earlier form worked. The return itself is already a new setzung. The author encounters his own form as something partly foreign and takes it up again in altered form.

This is, in fact, not an unusual process. Art has always lived from it. A painter sees his own image differently the next morning. A writer reads an old text after years and finds within it an author he no longer is. A director discovers in editing a meaning that was not planned during filming. The work already answers before any AI answers. Generative AI radicalizes this situation above all through speed and availability. A process that previously may have been distributed across readers, editors, conversations, or self-reading years later can now occur several times within a few hours.

It does not simply accelerate writing. It accelerates the number of possible self-encounters.

But speed also changes Eigenzeit.

Too many transformations can prevent a setzung from developing resistance at all. Before a form has had time to stabilize, twenty alternatives already exist. This can open possibilities. But it can equally prevent a form from ever having the chance to become difficult.

Not every possible transformation must therefore be carried out. Not every improvement must be accepted. Not every counterposition requires an immediate answer. Eigenzeit may require precisely those points at which something remains lying there.

A concept must sometimes be allowed to remain wrong, incomplete, or incomprehensible for years before it becomes visible what it actually carries. An AI optimized for efficiency could treat this state as a deficit and close it far too early. The work would then lose not only its resistance. It might lose a future.

Under these conditions, authorship would also be the capacity to **not** allow a form to be optimized. The right to an open setzung. To a glitch that does not yet possess an explanation. To a point that remains in the work even though it is not yet clear why.

This once again changes the meaning of control. An author does not have to control his process completely in order to be an author. Perhaps he must even be able to accept that essential things emerge outside his control.

But he must be able to develop a relation to them. He must be able to decide whether something is carried forward without already fully knowing where it leads.

That is something different from sovereign planning.

It is **form-binding under non-closure**.

Precisely for this reason, generative AI need not be understood as a metaphysical rupture of authorship. If authorship already emerges within a world-relation that cannot be completely controlled, the machine is initially a new and extremely powerful part of that foreignness with which a work must engage.

What is new, however, is its cultural reach. Generative AI now changes not only texts that are produced with it. It also changes texts in which it was never used.

Since machine-generated language has become culturally present, human language is also read differently. Smoothness can generate suspicion. Certain formulations or academic rhythms suddenly appear as "AI-speak." Institutions develop disclosure requirements, rules, and detection procedures. Authors begin to position themselves in relation to a technology that may not occur in their concrete writing process at all.

AI has therefore long since become part of the world of reception. One can avoid it in one's own workflow. But one can no longer write entirely within a cultural situation in which it does not exist.

This is not a fundamentally new structure.

A painter after the invention of photography does not paint under exactly the same conditions as before, even if he never touches a camera. An author after the internet writes within a different information environment from an author before it, even if he works exclusively on paper.

Technologies also change those forms that reject them. Generative AI now changes the space of what language can culturally be.

A complete refusal of AI would therefore still remain a possible artistic or scientific setzung. But it would no longer be situated outside AI. Refusal too stands in relation to a world in which this technology exists.

To be of one's time therefore does not mean using every tool. It means standing within a time. Resistance belongs to this too.

The decisive question therefore remains not how an unchanged authorship can be conserved. But how an Eigenzeit can preserve itself as its own history through ongoing transformation. How it can take in the foreign without dissolving within it. How it can change without every change being determined from outside. And how it can remain open enough to still produce tomorrow a setzung that neither the author nor the machine already knows today.

8. The Foreign in the Work: Influence, Appropriation, and the Borrowed Form

A problem has so far appeared only at the margins. When an author works with generative AI, he may be working with the traces of very many other authors without knowing which ones.

At first, this sounds like a fundamentally new problem. But perhaps it is only partly so. **Culture was never clean.**

No author fully knows where everything that speaks within him comes from. One reads a book at sixteen and forty years later no longer remembers it, although perhaps a rhythm has remained. A film changes the gaze. A professor uses a concept. A friend says a sentence. A newspaper shapes a metaphor, a political era an entire form of thinking.

At some point, these things are no longer present as quotations. They have sedimented.

One cannot trace every cultural influence. If one tried, it would hardly remain possible to determine where an author begins. Precisely for this reason, art and literature have long had a more complicated relation to the original than some current AI debate seems to assume. Modernism, and even more strongly the art that followed it, did not only defend originality, but systematically attacked it.

The readymade turned an already existing object into part of a work through setzung. Collage took foreign material seriously precisely because it remained foreign. Later Appropriation Art went even further. Sherrie Levine reproduced works by other artists almost demonstratively and thereby called into question the idea of the artist as the sole origin of the work.

But the development did not stop with foreign material. With media art, the question shifted further toward the apparatuses themselves. Peter Weibel pursued this shift over decades. For him, photography already called into question the classical conception of the author as sole creator, because between world and work there enters a technical apparatus that itself produces conditions of perception and production.

The artist does not disappear through this. But his authorship can no longer simply be identified with manual labor or immediate production. Medium and machine enter into the process of form formation. Richard Kriesche, who was the author's teacher at the Ortweinschule in Graz, did not only address such shifts theoretically, but repeatedly produced them experimentally. This becomes particularly clear in *ARTSAT* in 1991.

During an orbit of the Soviet space station MIR, a chain of transformations emerged in which a message from cosmonaut Franz Viehböck was transmitted to Earth, acoustically altered, translated into data, and finally written in ASCII code onto a large steel plate by a welding robot.

The author himself was present at the time. Who, then, is actually the author here? The cosmonaut? Kriesche? The robot? The software? The transmission system? The space station? Or the entire technical and cultural constellation?

The question itself becomes wrong when one tries to reduce the work once again to the instance that last physically produced a trace. The robot actually welded the signs into the plate. In a purely material view, its share would be considerable.

Nevertheless, it seems absurd to derive a corresponding robot authorship from this.

More interesting is the chain.

A human setzung leaves its original location, is technically transmitted, acoustically transformed, coded, interpreted by a machine, and inscribed into another material. At every transition, the form changes. What lies on the steel plate at the end is neither simply the original message nor an autonomous production of the robot. It is the trace of a relation that has passed through several Raster.

Almost exactly here lies the problem that reappears today with generative AI. Only back then the machine was still more visibly a machine. One could watch the robot welding. One could see where human, code, transmission, and mechanical execution met.

With generative AI, by contrast, these levels often disappear behind a linguistic surface that looks as though it had been produced directly by a single speaker. Perhaps precisely this invisibility produces today's irritation.

The early media-art experiments of Kriesche and Weibel therefore appear astonishingly current in retrospect. They did not treat technical mediation as contamination of an otherwise pure authorship, but made mediation itself the object of the work.

Apparatuses were not simply tools outside art. They were conditions, resistances, and operative participants in form formation. In Kriesche's *ARTSAT*, what is interesting is precisely that no simple machine autonomy is asserted. The robot produces a real material trace. But this trace has meaning only within a longer relation of spaceflight, communication, translation, coding, technical infrastructure, and artistic setzung. This creates a fairly direct precursor to today's question. A machine can execute something, transform it, and even produce a form that no human made with their own hand.

That is still not enough to determine the location of authorship. This does not mean that art at some point discovered that authorship was irrelevant. Rather the opposite.

It showed how complicated it is.

Appropriation itself can be a setzung. Displacement can be the work. A quotation can keep the original context open or attack it. Sometimes the work consists precisely in everyone being able to see where the material comes from. With Levine, concealing the source would almost have been contradictory. The foreign work must remain visible for the new setzung to function. This is very far from plagiarism. Plagiarism usually lives from another movement.

Something foreign is presented as one's own precisely by making its origin disappear. No new relation is made visible; instead, an existing relation between work and author is

overwritten. This is interesting for the concept of authorship developed here. For plagiarism would then not only be the unauthorized use of foreign material.

It would be an attack on Eigenzeit.

A setzung is separated from the history from which it emerged and inserted into another authorial history as though it had arisen there. Influence does something else. An influence enters into a new Eigenzeit. It may remain recognizable, perhaps not. But there it encounters other experiences, other relations, other already existing setzungen, and another future.

The result is not simply the foreign setzung under a new name. Something foreign has altered a process of form formation. Between these two cases, of course, lies a vast gray area. Art has long lived precisely there.

Andy Warhol, Richard Prince, sampling, remix, and Appropriation Art have repeatedly worked at this boundary.

Law has never fully adopted this openness. The case of *Andy Warhol Foundation v. Goldsmith* in 2023, in particular, showed that artistically new meaning is not automatically sufficient to legally justify the concrete use of another work. This is important because two questions must be separated:

Where does new authorship emerge?

And:

What is this new authorship allowed to do with the material of others?

These are not the same questions.

A work can possess original authorship in the strong sense and at the same time infringe the rights of others. The same applies to AI.

The question whether a paper created with generative AI remains the work of a human author is not decided by the fact that the machine was trained on the works of others. But this does not make the training problem disappear. It simply lies on another level.

On the one hand, it is sometimes spoken of as though every AI-generated sentence were a kind of disguised collective work by all the people whose texts at some point appeared in the training. That seems too far-reaching.

If this standard applied, one would have to apply a similar standard to human beings. Every author would then be co-author of every later author who had read them. Culture would disappear into an infinite chain of retrospective co-authorships.

On the other hand, it would be equally simplistic to claim that training is merely the same as human reading.

It is not.

The scale is different. The technical processing is different. The speed is different. Above all, the relation between the original author and the later system is different. An author can see millions of works enter a technical system without knowing about it, without being able to relate to it, and without remaining visible in the later output.

The U.S. Copyright Office explicitly rejects the simple equation of machine training and human learning. In the report *Copyright and Artificial Intelligence, Part 3: Generative AI Training*, it emphasizes that human learning is filtered through memory, biography, personality, and relation to world, whereas machine training is based on technically produced copies, high processing speed, and a non-comparable scale. At the same time, the Office acknowledges that stylistic imitation can have economic effects on original authors even where no single source work is directly reproduced in the output. (U.S. Copyright Office, 2025)

This makes the matter more interesting than a simple question of theft. An AI can carry something from an author without outputting an identifiable sentence by him. Perhaps a space of style. A typical connection. A statistically sedimented form of a genre. A particular historical movement of language. But where, within that, does the achievement of an individual earlier author actually begin? Often, this can no longer be cleanly determined.

It is precisely there that AI again resembles culture.

Culture too is a vast store of sedimented forms whose origin has partly been lost. A writer does not use the form of the novel under license from all those who developed the novel before him. A filmmaker does not pay Eisenstein because montage has become part of his language. This does not mean that earlier authors have become meaningless. It means that their setzungen have entered culture. They became conditions for further setzungen.

Perhaps precisely here lies a boundary that has not yet been sufficiently clarified for AI: the transition from a **concrete work** into a **cultural space of form**.

Human beings permanently live in such spaces of form. Language itself is one. No author owns the words with which another writes. Grammatical forms, genres, modes of argumentation, narrative perspectives, or many aesthetic procedures are likewise not simply private property. A work can produce a form that eventually becomes part of cultural possibilities. The question is only when that happens.

And who decides.

With generative AI, this historical sedimentation is technically compressed. What otherwise runs through generations, schools, imitation, forgetting, and cultural shifts can be pressed into a training process. This can erase Eigenzeit differently, or make integration into later Eigenzeit more difficult in a particular way, because a reduction of relation takes place.

Millions of individual works enter a system and afterward no longer appear as millions of works, but as the possibility of a model. Precisely this compression produces the unease.

Probably with reason. For the machine can simulate cultural sedimentation without having passed through its historical Eigenzeiten.

It receives, so to speak, a culture without its time.

This fits strikingly with the concept of the preserve developed so far. Works that emerged from Eigenzeiten become technically available, aggregated, statistically transformed. From countless freezings emerges a highly mobile space of possibilities.

The later user does not necessarily access the work of author X.

He accesses a system in which X may be present only as a trace that can hardly still be isolated. What is this trace then? Co-authorship seems the wrong concept for it. But meaninglessness does as well.

Perhaps one must distinguish between **work provenance and cultural provenance**.

The cultural provenance proposed here thereby touches on a broader debate about the distribution of cultural production in generative systems. Goodfellow (2024) describes AI art as the result of complex networks of artists, technical systems, algorithms, and underlying bodies of information. Other approaches accordingly speak of hybrid or distributed creativity. Cultural provenance, however, does not simply designate all these instances as co-authors. Rather, the concept is intended to capture that sedimented layer of foreign forms which co-constitutes the space of possibilities of a new setzung without therefore coinciding with the concrete work provenance. The distinction is intended precisely to prevent cultural dependence from either being made invisible or, conversely, dissolved into a boundless chain of co-authorships.

Work provenance asks from which concrete history of form a work emerged. Cultural provenance, by contrast, designates the sedimented foreign forms without which the space of possibilities of a setzung would not exist at all. Every human authorship possesses such a cultural provenance.

AI merely makes it technically monstrous.

It condenses an almost unimaginable number of cultural traces into a system that then makes them recombinable within seconds.

This raises the question not only of the responsibility of the individual author, but also that of a society that must preserve Eigenzeit in order to still be able later to know what it emerged from.

The author who uses this system inevitably takes in the foreign. But taking in the foreign is not yet plagiarism. The question remains what happens to it.

If a language model suddenly outputs a sentence that is almost verbatim from an existing text and this sentence is published as one's own formulation, the situation is different from a response whose possible cultural origin within a statistical space can no longer be attributed to individual works.

The first approaches concrete appropriation. The second initially approaches a space of influence. Between them lies the question of style. Style is not an individual sentence and yet can become so specific over years that it is associated with a person.

From the perspective of this paper, style lies somewhere between surface and Eigenzeit. Sometimes style is merely a recognizable surface. Sometimes it is the Strich.

Then a perfect style imitation can produce something formally very close to the author and Eigenzeit-wise completely outside him.

This is precisely where the danger formulated in the first chapter becomes visible: making history arbitrary. A machine could, as mentioned earlier, theoretically continue the work surface of a deceased author endlessly. New novels. New images. New music. Everything seems plausible. Perhaps even brilliant. But the work history would have broken off.

The new form would look as though it came from the same Eigenzeit even though this Eigenzeit had not continued. That would be something different from influence. And something different from ordinary cultural continuation. It would be a **simulation of continuation**. A simulation of Eigenzeit.

This also places the question of training in another light. The actual problem may not lie in the fact that a system knows cultural forms. A completely culture-free intelligent system would hardly be conceivable and probably no more interesting than a completely culture-free human author. It becomes problematic where concrete Eigenzeiten are invisibly transferred into a technical space of form and the same space of form can then be used to simulate their specific setzungen or their Strich against them themselves.

Two levels then collide. Culture requires transfer. Authorship nevertheless requires protection against erasure. One cannot solve both by declaring every trace of foreign influence to be property. Culture would then freeze. But one cannot solve it by saying that everything is influence anyway. Plagiarism would then disappear.

The boundary probably lies less in the fact of appropriation than in its **relation to the identifiable setzung**. How close does the new form remain to a concrete work? Is its Eigenzeit made visible or concealed? Is a Strich being taken over or a form long since culturally distributed? Does a new relation emerge or is an existing relation merely continued under a new name? And does the new use damage the original author's possibility of continuing his own work history?

These are not questions that can be answered by similarity scores alone. Art, precisely, has repeatedly provoked this boundary and nevertheless not abolished it. It has long known that authorship does not mean purity.

But it also knows that non-purity is not a free pass.

That authorship is culturally not merely a retrospective legal or metadata question is also shown empirically in reception. Stanko-Kaczmarek, Dera, and Koscielska (2024) had participants assess the same human-written text under different authorial attributions.

When the poem was labeled as AI-generated, it received lower ratings for originality, aesthetic quality, and emotional involvement, although the work itself had not changed. Assumed authorship therefore alters the perception of form. This does not prove Eigenzeit in the sense used here, but it shows that the relation between work and presumed origin remains culturally effective even when the visible surface is identical.

Law draws the boundary more narrowly than some art theory. On the other hand, the U.S. Copyright Office maintains in the context of AI that the use of a machine in the creative process does not fundamentally exclude human copyright protection.

The legal model and the model developed here are not identical. But they touch at an interesting point. Law too begins to detach the question from the mere fact of machine use. For this paper, however, the decisive level lies deeper.

Not:

Has the human contributed enough visible editing?

But:

Where lies the Eigenzeit of the setzung?

And for the foreign material:

What has entered into this Eigenzeit, and in what form?

Perhaps AI-assisted authorship therefore does not need a declaration of purity, but a more honest conception of provenance. No author can fully disclose which cultural influences are at work within him. No one demands this of a human being either. But concrete appropriations are treated differently. Quotations are marked. Sources are named. The ideas of others are attributed where they are carried forward as identifiable setzungen of others. This might also be the more meaningful boundary for AI. Not the fiction that a text created with AI would have to be free of foreign cultural traces. But the obligation to look more closely where diffuse influence once again becomes an **identifiable foreign setzung**.

A language model should not function as a washing machine for provenance. If a thought, a formulation, or a structure recognizably comes from a particular work, interposing a machine must not erase the original relation. The machine cannot turn a quotation into mere influence. But it can mediate influence whose individual origin can no longer meaningfully be isolated.

Precisely this distinction will probably become more difficult in the future. AI does not create a world in which suddenly all works become mixed together. We already lived in such a culture. Rather, it changes the **density, speed, and invisibility of mediation**.

That is significant. But it is not the same as the abolition of authorship. On the contrary. Precisely because mediation becomes more invisible, the question becomes more important of which Eigenzeit is actually carried forward through a form.

Perhaps the relation can be formulated like this:

A culture can only persist if the setzungen of others are allowed to enter new Eigenzeiten. Authorship can only persist if, in doing so, every trace of their origin cannot be overwritten arbitrarily. Between the two there is no clean boundary line. Culture lies there.

And our culture needs an awareness of how it enables Eigenzeit as such and preserves it in its freezings. This has always stood in tension with capitalist interests and with a tendency toward mainstreaming, which is nothing other than the reduction of individual Eigenzeit and its relations in favor of a unified culture. Precisely these strategies for preserving deviation and authorship must also be continuously further developed under conditions of AI. But the answers must not once again be reductions imposed by the market, or by the epistemically privileged against the independent scene, for example.

The preservation of Eigenzeit relations appears here to be the more central question than merely the preservation of copyright. We should not only protect the products of authorship, but also its precondition.

9. The Person in the Raster: Authorship as Unformatting

The question of authorship developed here did not first emerge in the author's work with generative AI. Rather, it runs through very different works as a recurring operation: a concrete human being enters an already existing Raster, does not fit into it, and thereby forces this Raster to give up its apparent neutrality.

When, for example, in 2010 the author threatened in connection with Red Bull to kill a bull in front of the corporation's headquarters, a highly controlled world of branding and media was suddenly confronted with a person who did not behave according to the roles assigned to him. In later works on Jobcenters, courts, diagnostics, or other institutional systems, something structurally similar happens. Forms, procedures, files, legal categories, and administrative languages initially appear as impersonal Raster. The author, however, enters these Raster as a concrete Eigenzeit and forces them to react to something that was not provided for in their preserve.

The author makes the relation to authorities, corporations, and the state personal. And he has done so for 30 years, in countless actions, artworks, and research projects.

In earlier works, this method was described as provoked empiricism. The provocation does not merely consist in generating attention. It creates a situation in which a system, under the pressure of a person who cannot be fully integrated, makes visible how it binds reality. The Raster answers. Precisely in its defensive reactions, displacements, mistranslations, and ruptures, its conditions become readable.

Books such as *SPEED'S WORK* (Speed, 2025g) also follow this movement. As does the feature film *Transferprotokoll* (Speed, 2024). Personal experience is not subsequently added there as a

private illustration of an abstract system. It enters the system itself. The person prevents administration, work, economy, or institution from appearing as fully closed models. He brings Eigenzeit back to where systems tend to turn human beings into cases, categories, and calculable functions.

The same thing also happens within scientific texts. The author enters a predominantly neurotypically organized academic Raster as a neurodivergent person. He does not simply adopt its format. He uses it. The paper thereby itself becomes a tool of unformatting. It allows the author to appear within an existing form and to shift it from within to such an extent that something can become visible which the form had not originally provided for. In the discussion of Interface Text, it was already emphasized that contact should not emerge through the elimination of difference, but under its preservation.

Perhaps this contains a practical answer to the question of this paper. Against a culture of the preserve, it is not enough merely to label or protect human authorship. It must repeatedly be allowed to enter systems. Authorship then also means asserting one's own Eigenzeit where Raster have already determined what is to count as understandable, relevant, reasonable, scientific, or real.

Eigenzeit is thereby repeatedly brought into expression anew.

Perhaps precisely this is the political and epistemic function of authorship:

to confront the preserve again and again with a human being.

And where the Raster cannot accommodate this human being, not to immediately correct the human being.

But first to open the Raster.

10. Conclusion: Authorship After Purity

Perhaps the wrong question from the beginning was not only:

Who wrote this text—the human or the machine?

Perhaps the wrong assumption was that authorship had to begin at the point where a work can be traced as clearly as possible back to a single instance of production.

Such an idea only works as long as one separates work, author, language, and world from one another.

The author produces.

The work emerges.

The world receives.

In an actual history of a work, things hardly ever happen so cleanly.

A work emerges from prehistory, material, other people, accidents, apparatuses, resistances, social Raster, languages, misunderstandings, and possibilities that an author did not create himself. It changes in enactment. And as soon as it enters the world, the world in turn changes what this work can be for the author and what the author can be for his next works.

Authorship therefore does not lie outside this contamination.

It lies in the middle of it.

This does not mean, however, that authorship becomes meaningless.

On the contrary.

The less a work can be reduced to a pure origin, the more important becomes the question of **which history is carried forward through its transformations**.

It is precisely for this that the concept of Eigenzeit was introduced in this paper. From this perspective, authorship does not protect an untouched substance of the author. It protects the possibility that a setzung remains recognizable as part of an irreversible history of its own.

The work is within this neither merely property nor merely product. It is a place at which an Eigenzeit enters a shared world. A freezing. A trace. And at the same time already the beginning of a further movement.

This explains why the origin of individual words cannot be a sufficient measure of authorship. A sentence can be altered by an editor, completely reformulated by a translator, generated by a technical system, or produced within a recursive human-machine process. All of this can be relevant to authorship. But not necessarily in the same way.

What matters is where, within a concrete form of work, its specific difference emerges. Its Strich. The Strich can lie in the word. In the body. In the cut. In a movement of material. In the decision. In a theoretical architecture.

In the capacity to carry certain differences forward over decades without already knowing where they will lead. This is why Eigenzeit is not Eigenhändigkeit. And this is why machine participation is not automatically machine authorship.

Generative AI only makes this distinction harder to see because it enters a field that modern culture has associated particularly closely with authorship: language.

When a machine formulates a sentence, its performance outwardly resembles that activity which until now appeared to be the most immediate proof of human authorship. But perhaps precisely this proof had already been weak before. A sentence possesses no authorship in itself. It can become part of an authorship.

Just as an image fragment, a camera image, a sample, a typing error, a translation, or a foreign thought can become part of a work. The critical point does not lie in the fact that the foreign enters. Culture would be impossible without this entry.

The critical point lies in **what happens to the foreign and what the foreign does to the Eigenzeit into which it enters**.

Here also lies the actual ambivalence of generative AI. It can open a form. It can externalize a foreign perspective. It can make a neurodivergent text more readable without necessarily replacing its epistemic structure. It can generate resistance. Through an error, it can show where a Raster does not hold. It can transform a thought in a way that makes a new setzung possible. But the same technology can also smooth. Normalize. Shorten. Close too early.

Inscribe a foreign order so deeply into one's own form formation that at some point the author no longer recognizes which possibilities have already disappeared.

The difference does not lie simply in the use of the same machine. It lies in the relation. Precisely for this reason, the demand for complete purity is no solution either.

An author who withdraws from every transformation does not necessarily protect his authorship. He may just as well merely conserve an earlier state. The protection of Eigenzeit can, under certain conditions, require precisely transformation. Translation. Interface. Contact. Rupture.

This sounds paradoxical as long as authenticity is understood as the least possible alteration. If authenticity instead designates the continuity of an Eigenzeit, the question changes. A form can then be transformed very far and still remain part of the same history.

And an outwardly completely identical form may have long since left this history. A perfect simulation of a new Kafka text could imitate his Strich. It might even continue operative structures. But it would not continue Kafka's Eigenzeit. Kafka would not be changed by this text. He could not reject it. Not defend it. Not regret it. Not carry it as an error into a later work.

The simulation would have reproduced a trace, but not continued a history. In this perhaps lies one of the decisive differences between authorship and style. Between the surface of a work and the history of a work. Between similarity and continuation.

And precisely for this reason, the question of future machine authorship cannot simply be answered with no. According to the model developed here, a machine would not be excluded from authorship in principle because it is a machine. That would only be a new form of essentialism. What would matter instead is whether a technical instance possesses more than production capacity, memory, recursion, or the storage of previous states. Its setzungen would have to become part of an irreversible world-history of its own. A setzung would have to change its later possibilities. Not only technically as a new data state, but in such a way that after this setzung the instance no longer possesses the same possibility it had before. It would have to enter relations whose consequences are not arbitrarily resettable. It would have to carry errors. Carry history. Perhaps even be capable of losing something.

Only then would the question of machine authorship in the stronger sense break open anew.

The concept of Eigenzeit developed here is therefore not human because human beings possess it. It is human only insofar as, at present, human beings exhibit that form of irreversible world-relation on which this concept was developed.

Should a machine one day actually produce an Eigenzeit of its own, this model too would have to shift. For authorship must not be protected by defining its conditions in such a way that only already known authors can fulfill them. It must remain open to forms of becoming that we do not yet know.

Precisely in this, it differs from property.

This also means that the debate about generative AI cannot meaningfully choose between two fantasies. On one side, the fantasy of the fully autonomous human author who speaks entirely from himself. On the other, the fantasy of the machine that now independently produces culture and therefore replaces the human as author.

Both ideas do the same thing. They cut away relations.

More interesting is the intermediate space. There where a human setzung is altered through a technical form. There where a machine produces something that acquires meaning only within a foreign Eigenzeit. There where an author does not formulate a sentence himself and nevertheless recognizes that precisely this sentence carries a structure that emerged from a thirty-year history. There where a foreign Raster misunderstands something and precisely through this makes visible what previously could not be said.

This space is not clean.

Nor is it completely controllable.

Authorship might ultimately lie where form-binding takes place within a world-relation under non-closure.

In an authorship that can take in the foreign without dissolving within it.

That can change without every change being determined from outside.

And precisely for this reason, the question of authorship begins anew where purity ends.

Declaration of AI usage

Generative AI tools were partly used during manuscript preparation to support language editing, structural refinement, translation, critical review, and the clarification of formulations. Their use forms part of a broader method of Interface Text, in which generative AI can function as a mediating and transformative interface between differently organized linguistic, cognitive, and epistemic forms. This is of particular relevance to neurodivergent authorship, where the communicative surface of a text may require translation into dominant academic or linguistic conventions without replacing the underlying epistemic structure.

The research, empirical material, theoretical concepts, interpretations, and scholarly conclusions remain those of the author. AI-assisted material was critically reviewed, revised where necessary, and integrated only where it remained consistent with the author's formative logic and conceptual framework. The author assumes full responsibility for the final manuscript.

For the methodological and theoretical context of this use of generative AI, including the concepts of Interface Text, neurodivergent authorship, recursive transformation, and authorship as an Eigenzeit-relation, see: Timothy Speed, "Communicating with the Unfamiliar and the Incommensurable: Generative AI, Neurodivergent Authorship, and the Transformation of Epistemic Form" (2026), DOI: https://doi.org/10.5281/zenodo.22810346

References:

Weibel, Peter. "The Apparatus World – A World unto Itself." In *Eigenwelt der Apparatewelt: Pioneers of Electronic Art*, edited by David Dunn, Woody Vasulka, Steina Vasulka, and Peter Weibel, 14–20. Linz: Ars Electronica, 1992.

Kriesche, Richard. *ARTSAT – MIR.* 1991. Soviet space station MIR / ORF Steiermark / Graz. Documentation in *Medienblock Richard Kriesche*, Projekt 46.

The Museum of Modern Art. "Sherrie Levine: *After El Lissitzky*, 1984." In *MoMA Highlights since 1980*. New York: The Museum of Modern Art, 2007, p. 40.

Supreme Court of the United States. *Andy Warhol Foundation for the Visual Arts, Inc. v. Goldsmith et al.*, 598 U.S. 508 (2023), decided May 18, 2023.

U.S. Copyright Office. *Copyright and Artificial Intelligence, Part 1: Digital Replicas.* 2024.

U.S. Copyright Office. *Copyright and Artificial Intelligence, Part 2: Copyrightability.* 2025.

U.S. Copyright Office. *Copyright and Artificial Intelligence, Part 3: Generative AI Training.* 2025.

Whitney Museum of American Art. "Sherrie Levine." Artist profile and discussion of *After Walker Evans*. New York: Whitney Museum of American Art.

Bao, Han, and Jonathan P. Bowen. "The Ownership of AI Art: Cultural Sustainability, Ethical Authorship, and Museum Governance in AI-Assisted Artistic Practices." *Preprints.org*, 2026. DOI: 10.20944/preprints202601.2376.v1.

Crawford, Joseph, Michael Cowling, Sally Ashton-Hay, Jo-Anne Kelder, Rebekkah Middleton, and Gail S. Wilson. "Artificial Intelligence and Authorship Editor Policy: ChatGPT, Bard Bing AI, and Beyond." *Journal of University Teaching & Learning Practice* 20, no. 5 (2023), Article 1. DOI: 10.53761/1.20.5.01.

Fritz, Johannes. "Understanding Authorship in Artificial Intelligence-Assisted Works." *Journal of Intellectual Property Law & Practice* 20, no. 5 (2025): 354–. DOI: 10.1093/jiplp/jpae119.

Goodfellow, Paul. "The Distributed Authorship of Art in the Age of AI." *Arts* 13, no. 5 (2024): 149. DOI: 10.3390/arts13050149.

Lund, Brady D., and K. T. Naheem. "Can ChatGPT Be an Author? A Study of Artificial Intelligence Authorship Policies in Top Academic Journals." *Learned Publishing* (2023). DOI: 10.1002/leap.1582.

Mazzi, Francesca. "Authorship in Artificial Intelligence-Generated Works: Exploring Originality in Text Prompts and Artificial Intelligence Outputs through Philosophical Foundations of Copyright and Collage Protection." *The Journal of World Intellectual Property* 27 (2024): 410–427. DOI: 10.1111/jwip.12310.

Murray, Michael D. "Tools Do Not Create: Human Authorship in the Use of Generative Artificial Intelligence." *Journal of Law, Technology, & the Internet* 15, no. 1: 76–105.

Stanko-Kaczmarek, Maja, Lilianna Dera, and Halszka Koscielska. "'Between the Lines': Perceptions of Poetry With Authorship Attributed to Artificial Intelligence or Humans – A Comparative Analysis." *The Journal of Creative Behavior* 59, no. 3 (2024): e1513. DOI: 10.1002/jocb.1513.

Uebel, Michael, and Bilal Hamamra. "Authorship After Generative AI: Distributed Creativity and Relational Responsibility." *Philosophy & Technology* 39 (2026): 152. DOI: 10.1007/s13347-026-01170-w.

Speed, T. (2026a). *Thinking in Formation: On a Form of Cognition That Produces Knowledge in Process* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20049745

Speed, T. (2026b). *World-Formation Research: An Operatoric Research Programme for the Study of Non-Closure, Knowledge, and the Conditions of Further Knowledge* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.22659569

Speed, T. (2026c). *The Negative Movement of Eigenzeit: Non-Closure, Operator Formation, and the Conditions of Morphogenesis*. Zenodo. https://doi.org/10.5281/zenodo.20590372

Speed, T. (2026d). *Masking Is Not an Exhaustion Symptom: How Psychiatric Diagnostics Reduce Autistic Existence to Failure* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18199424

Speed, T. (2026e). *Masking Between Existence and Understanding: Pre-Ontological Liminality and Ontological Field-Fabrication in the Tension Between Neurodivergent and Neurotypical World Architectures* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18140651

Speed, T. (2025a). *They Cannot Understand: Why Autism Research Gets It Wrong*. Zenodo. https://doi.org/10.5281/zenodo.19035961

Speed, T. (2025b). *Operatoric Cognition: Pre-theoretical Structural Invariance as the Basis of Autistic Intelligence*. Zenodo. https://doi.org/10.5281/zenodo.17897109

Speed, T. (2025c). *Veridical Mapping as the Foundation of a Second Science: Rosetta Operator — An Invariance Theory of Consciousness, Work, and World*. Zenodo. https://doi.org/10.5281/zenodo.17976604

Speed, T. (2025d). *The All–Nothing Paradox: Ontological Openness as a Condition of World-Formation — Why Closure, Not Complexity, Marks the Limit of Artificial Systems*. Zenodo. https://doi.org/10.5281/zenodo.18000730

Speed, T. (2026f). *The End of World-Time: Indimergence, Curved Possibility, Recurrence, and the Limit of World-Capability* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18455805

Speed, T. (2025e). *The Physics of the Poor: A Neurodivergent Meta-Theory of Consciousness*. Zenodo. https://doi.org/10.5281/zenodo.19051837

Speed, T. (2019). *Unfolding Gap: On the Structural Gap Between Work and Value* (Version 2 English). Zenodo. https://doi.org/10.5281/zenodo.17951579

Speed, T. (2025f). *The Curve of the World: Why World-Binding Cannot Be Linear — Shift of Being, Time, and the Impossibility of the Archive* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.18097931

Speed, T. (2026g). *The Sweet Spot of Intelligence: World-Binding, Complexity, and the Limits of AGI* (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20828692

Speed, T. (2026h). The Limits of Predictive Intelligence: World Models, World-Binding, and Responsibility (Version 1). Zenodo. https://doi.org/10.5281/zenodo.20920844

Speed, T. (2014). *Stieren des Weltdesigners* (Version AAM Open Version in German). Zenodo. https://doi.org/10.5281/zenodo.18146435

Speed, T. (2026i). *Simulation, Closure and the Ontological Limit of Artificial Systems (Studies in World-Formation, Vol. 6)* (Version 1). Zenodo. *https://doi.org/10.5281/zenodo.18996977*

Speed, T. (2001). *Verdammt Sexy - Die Mediengestalter in der Krise (Version Open AAM Version in German). Zenodo. https://doi.org/10.5281/zenodo.18144989*

Speed, T. (2025g). SPEED'S WORK - An Autistic Intervention in the Concept of Work In the Age of AI and Robotics (Version AAM DNB Version English). Zenodo. https://doi.org/10.5281/zenodo.19035228

Speed, T., (2024). Transfer Protocol (Transferprotokoll) – A Neurodivergent (Autistic) FEATURE FILM by Timothy Speed. Zenodo. https://doi.org/10.5281/zenodo.18093110